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REIMBURSING HOSPITALS ON INCLUSIVE RATES

THE BOSTON CONSULTING GROUP, BOSTON, MASSACHUSETTS
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NATIONAL CENTER FOR HEALTH SERVICES RESEARCH AND DEVELOPMENT

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

REIMBURSING HOSPITALS ON INCLUSIVE RATES

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A Report
prepared for

NATIONAL CENTER FOR HEALTH SERVICES RESEARCH AND DEVELOPMENT,
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

by

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The Project upon which this publication is based was performed pursuant to Contract No. HSM 110-70-53 with the Health Services and Mental Health Administration, Department of Health, Education, and Welfare.

Special Communication

The attached report contains findings and recommendations of a feasibility study of reimbursing hospitals on all-inclusive rates. The report, prepared by the contractor, is made available for informational purposes only and does not imply official endorsement.

The report discusses various types of all-inclusive rates and the data hospitals using these rates must maintain for determining reasonable estimates of the costs of care for various programs that reimburse these hospitals. As the report points out, however, minimal stratification of aggregate statistics can provide the basis for these reasonable estimates and still realize appreciable economies over the individual charge-slip system. HSMHA through NCHSRD intends to conduct systematic tests of the preliminary formulations resulting from the feasibility study. It is only on the basis of thorough testing and evaluation that reasoned conclusions can be made as to advantages and disadvantages of the AIR.

As in the feasibility study, counsel and guidance were provided by the following Advisory Panel whose assistance is hereby gratefully acknowledged.

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Preface

Since January 1970, The Boston Consulting Group, Inc. and its subcontractor, the Massachusetts Hospital Association, have been involved in an intensive study of the feasibility of more widespread reimbursement of hospitals on the basis of inclusive charges. The work has required extensive research and interviews in many parts of the health community, and we are much indebted to the many individuals and groups who have given generously of their time and experience to help in our work. The impracticality of acknowledging individually the assistance of each person with whom we had contact in no way diminishes our gratitude for their assistance.

We would like to express our very special appreciation to the seven hospitals in Massachusetts which participated in the cost analysis efforts of the Massachusetts Hospital Association: Amesbury Hospital, Doctors' Hospital (Worcester), Somerville Hospital, Marlborough Hospital, New England Deaconess Hospital (Boston), Massachusetts General Hospital (Boston), and Quincy City Hospital. In addition, the University Hospitals of Cleveland and the Hospital for Sick Children in Toronto graciously permitted us to conduct research in their institutions.

We are especially grateful to the following individuals who have provided special continuing assistance throughout the project period: Sister M. Adele Meiser, Executive Director, St. Francis General Hospital, Pittsburgh; Mr. Carl A. Gottschalk, Administrator, West Valley Community Hospital, Encino, California; Mr. John R. Mannix, Vice President, Blue Cross of Northeast Ohio; and Mr. Louis A. Orsini, Director of the Health Insurance Council.

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REIMBURSING HOSPITALS ON INCLUSIVE RATES

BACKGROUND

One of the most significant current problems of the national health system is the rising cost of hospital services. The complexity and scope of the paper work involved in hospital administration contributes to rising costs, and much of the complexity may be attributed to the claims function.

Most hospitals now use an "average billing rate" for *some* charges–room, board, general nursing, house medical staff, and certain other services–but the majority of ancillary services are billed as individual line items.

The Boston Consulting Group's study tests the hypothesis that substantial savings in the cost of providing hospital care could be obtained by extending the "averaging" procedure to include all services provided by hospitals to patients, and that the present high level of hospital insurance coverage is conducive to acceptance of such averaging.

The study has been performed under contract with the National Center for Health Services Research and Development, an arm of the Department of Health, Education and Welfare. The basic research summarized in this volume was directed at determining whether, in fact, cost containment could be expected as a result of implementing inclusive rates, and if so, whether it is feasible to implement them within the health system as it now exists.

METHODOLOGY

Possibilities for administrative cost containment through inclusive billing were investigated through a systems engineering analysis of the charging and billing functions in a sample of seven Massachusetts hospitals now using traditional *a la carte* charging procedures. This analysis, which was performed by the Division of Systems Engineering of the Massachusetts Hospital Association, included a determination of the work elements which would no longer be necessary following a conversion to inclusive charging, and a computation of the costs which would thus be avoided. The analysis also included determination of possible administrative savings to payer organizations.

To determine the feasibility of more widespread implementation of inclusive rates, given cost containment potential, an extensive program of research and field investigation was undertaken by The Boston Consulting Group, Inc. The history and literature of inclusive charging were examined in detail. Interviews were conducted with a substantial portion of the hospitals now using inclusive rates, and with some which have used inclusive charging in the past but no longer do so. Finally, discussions were held with a diverse sample of individuals and groups with an interest in hospital reimbursement. The group included representatives of such vendors of health services as hospital organizations, associations of hospital administrators and financial officers, hospital-based physicians, a variety of health-care plans, and such representatives of payers for health services as Blue Cross plans, commercial insurance carriers, government agencies, industrial groups, and labor unions. Finally, discussions were held with such "neutral" parties as regulatory agencies concerned with insurance and hospital rates and consumer groups.

FINDINGS AND CONCLUSIONS

Inpatient Billing

Cost Containment Potential

Substantial savings in hospital administrative costs can be achieved through the implementation of inclusive charging. Such savings result almost entirely from the reduced level of business office staffing and data processing equipment necessary to operate the billing function. Further savings can be attained through the reduction of receivables made possible by inclusive charging, under which the bill can be presented to the payer at discharge, rather than being held open for the accumulation of late charges.

Reduction in Business Office Staffing: The effort required to operate a billing system is directly related to the degree of data accumulation required by the system. Inclusive charging completely eliminates a series of costly steps in the administrative process. Rate setting for each service item, filling out charge slips by service item by patient, forwarding charge slips to the business office, sorting charge slips by patient name, posting charge slips to patient ledgers, and posting itemized charges to patient bills are among the tasks which become unnecessary under inclusive charging.

In our study sample of seven Massachusetts hospitals, potential annual administrative cost savings from conversion to inclusive rates were found to be as follows, conservatively stated:

Hospital	*Present Cost*	*Cost Reduction*	*%*
Amesbury	$ 13,800	$ 5,200	38
Doctors'	59,900	27,300	46
Somerville	45,300	20,500	45
Marlboro	73,000	27,800	38
New England Deaconess	149,000	34,000	23
Quincy City	193,000	51,500	27
Massachusetts General	567,000	215,000	38

These figures do not include possible reductions in business office supervision.

The administrative cost reductions projected are equivalent to 37 percent of present inpatient accounting operating costs, or approximately one-half of one percent of total hospital operating costs. The annual cost reduction per patient bed is approximately $187.

Reduction in Receivables: In addition to the savings from reduced operating costs, it was determined that in the sample of seven hospitals receivables could be reduced by at least ten days under inclusive charging, by facilitating the presentation of the bill to the payer on the day of discharge, and eliminating the need to have a waiting period for the receipt of late charge slips. Such savings in interest totaled an additional .16 percent of total hospital operating costs, taking into account payer advances where applicable.

Feasibility of Implementation

There appear to be no insuperable barriers to more widespread implementation of inclusive charging. No single party to the health system unalterably opposes inclusive rates, and the concept of inclusive charging seems to have no inherent inadequacies. At least twenty-seven acute general hospitals in the United States now use inclusive rates, for which they have gained the acceptance of patients, physicians and all payers for health care. No major drawbacks, such as significant increases in ancillary service utilization, have been documented in hospitals now using inclusive rates.

However, few parties appear eager to abandon itemization to adopt inclusive rates. Over time, the existing *a la carte* charging process has become well entrenched, and the system has learned to live with it, and to use it.

Requirements for an Acceptable Inclusive Rate System: If an inclusive rate system is to be generally acceptable to parties in the health system, it must be constructed so that

- cost containment is significant and tangible
- existing economic and administrative relationships among the parties to the system are maintained
- distinctions can readily be drawn within the inclusive charge between routine and ancillary segments.

Recommended Inclusive Rate Charging System

Our research highlighted the desirability of accommodating various parties who evidenced uncertainty as to the effects of inclusive rates on their economic and administrative interrelationships. We recommend assuaging these doubts to the extent possible without sacrificing the cost containment effect of inclusive rates.

Representatives of the insurance industry are perhaps most concerned with the possible effects of inclusive rates upon their largest cost item: the claims they pay. Since underwriting expense is a function of the admission rate of the insured population, the average length of stay of those admitted, and the covered charges incurred by insured patients during their hospital stay, the optimum charging system must consider each of these factors in order to be generally acceptable.

We have concluded that a length of stay concept should be combined with an effective analog of ancillary service usage in the construction of the optimum rate, and therefore recommend rate which

- differentiates among patients by length of stay
- produces an ancillary use analog by means of a variable per diem rate, developed from a sampling of hospital records
- differentiates by type of accommodation
- itemizes separately certain discretionary items, take home drugs and devices, and blood

- offers a routine/ancillary charge distinction for the use of certain third party payers

- retains essentially the existing bases of compensation for hospital based specialists

- uses aggregate RCCAC for final settlement with cost reimbursers

- uses for hospital management and planning a data collection system featuring information derived from aggregate hospital cost data with industry standards or formulas developed and applied as appropriate.

Major Steps in Conversion to Inclusive Rates

In converting to inclusive charging, several key steps are necessary to ensure effective implementation and general acceptance. Major steps include

- obtaining the strong commitment of the hospital administrator

- informing and completing administrative arrangements with third party payers

- designing the specific hospital's rate scheme

- developing and implementing a program of public relations designed to gain the acceptance of the general public, and the understanding and support of physicians, nurses, and members of the paramedical staff.

- establishing an adequate data collection system

- developing a personnel policy designed to take advantage of staff reduction possibilities, through attrition or alternative methods

- creating new standards to ensure the realization of the benefits of inclusive charging (e.g., standards for the level of staffing, allowable time between discharge and presentation of bill, level of accounts receivable, etc.)

- developing effective methods of utilization review independent of charge or revenue data.

Outpatient Billing

Cost Containment Potential

Our study of seven Massachusetts hospitals indicated that substantial savings could be realized if outpatient billing were on an inclusive basis, i.e., an average charge per visit. Possible savings amount to about 20 percent of outpatient accounting costs, or about 26 cents per clinic visit.

Feasibility of Implementation

The Boston Consulting Group does not consider outpatient inclusive billing feasible within the health system as it is presently constituted. It should be noted that no acute, general, nongovernmental hospital in the United States now uses such rates for outpatient charging. Several factors contribute to this situation.

Insurance coverage of outpatient services is less mature than that for inpatient services. The variation in the present charge for outpatient visits, on a percentage basis, is far greater than that for inpatient days, thus making averaging less likely to gain acceptance from either third party payers or self-pay patients. Further, while welcoming the revenue from certain outpatient services, hospitals must maintain price levels competitive with private laboratories and physicians, if they are not to lose patients. Finally, there is the possibility that a uniform (and thus high) charge per outpatient visit might adversely affect the quality of medical care by discouraging individuals in need of outpatient services from seeking them.

Alternatives to Inclusive Charging. While inclusive charges do not appear feasible or advisable at present, other alternatives aimed at reducing the administrative cost of outpatient billing should be sought. We feel that it should be possible to design a system of “more inclusive rates” which substantially limits the number of individual charges by grouping procedures in a limited number of categories. Such a system could be designed to operate without the need to sort individual service charge slips by patient name. Work is continuing on such a system.

Chapter One

INCLUSIVE RATE CHARGING IN THE UNITED STATES

BACKGROUND

Definition of the Inclusive Rate Concept

As a system of billing hospital patients, *inclusive* rates are in contrast to the presently widespread *a la carte* method, the latter charging in large part on the basis of an itemization of services actually used. While the possible bases for charging under inclusive rate systems are varied, the critical feature of any such system is that with the exception of accommodations the patient's charge is independent of his utilization of particular services.

An "inclusive rate" system, then, typically conforms to the following definition, provided by the American Hospital Association:

> "Total charges consist of a rate based on type of accommodation multiplied by length of stay, *regardless of the utilization of ancillary services.**"

The variety of inclusive rates which retains the essential definitional features is almost limitless. Exhibit 1, while by no means exhaustive, demonstrates this graphically, illustrating 220 possible major variations within the definition.

The differences in the basis for various inclusive rate charging methods arise most commonly from efforts to find a means other than actual usage to allocate aggregate ancillary costs to particular classes of patients. The attempt is to find an analog which approximates usage as closely as possible without reverting to itemization.

Analogs which are *patient*-related try to associate ancillary levels with the characteristics of the particular patients:

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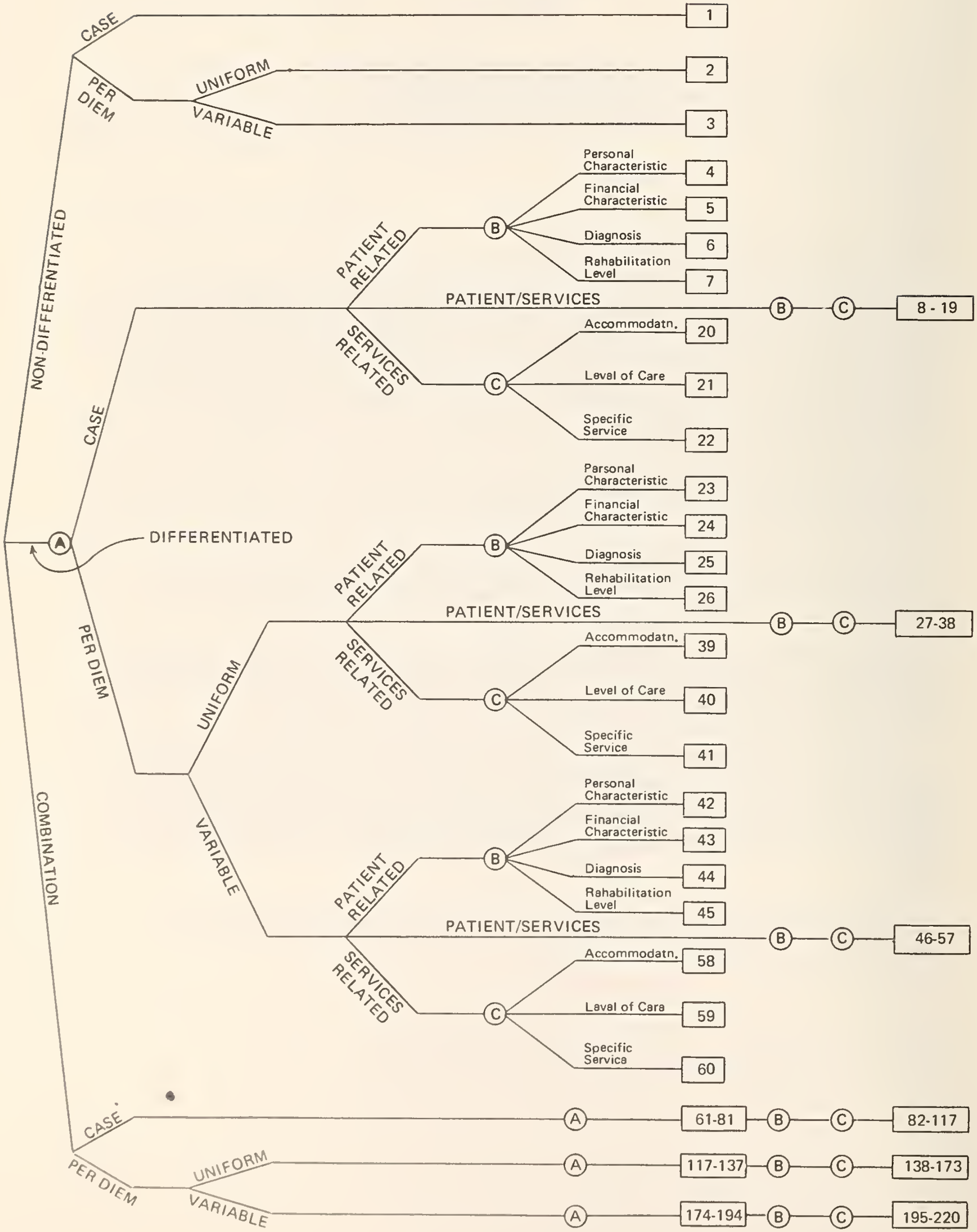
*1968 AHA Survey of 4016 Short-term, Non-government, General Hospitals.

EXHIBIT 1

ALTERNATIVE CHARGING METHODS



– personal characteristics (age, sex)

– financial characteristics (payer, credit rating, income level)

– diagnostic characteristics (at admission, at discharge, principal)

– rehabilitation level (ambulant, self-care)

Another whole set of analogs relates costs to the *institutional* characteristics of the patient's care; for instance,

– day of stay (Day 1, Day 2, Day 3, . . .)

– category of care (medical, surgical, obstetrical, intensive care, outpatient)

The actual analog used, as Exhibit 1 shows, can combine features from the variety of *overall* categories as well as being quite detailed with respect to the specific combination of services involved. As particularistic as, say, a rate analog for "Day 3 of under-16 years (pediatric), surgical, intensive care" is, it is nonetheless an inclusive rate as long as it is applied equally to all patients within that category. Regardless of how many such categories are established, the system is an inclusive one because the individual analogs impute charges based on *average* usage within the category rather than actual services rendered.

The Relevance of The Concept and Its Discussion In The Literature

The concept of inclusive rates is of interest because of administrative and managerial advantages it appears to offer vis-a-vis the pervasive *a la carte* system

– The primary potential is in simplifying patient billing and in realizing the attendant administrative cost savings. Under the traditional itemized billing concept, an average of 14 ancillary charges per patient per day must be processed; about 10 million such charge slips are generated each day in the U.S. An inclusive rate by definition would appear to eliminate a significant portion of this, and to further streamline the billing system.

- An inclusive approach to ancillaries should as a by-product allow refocussing hospital management and control efforts; management could concentrate usefully on departmental cost information with proportionately less preoccupation with patient charge data.

In the face of the theoretical potentials of inclusive rates, the concept has been the subject of some discussion within the health field,* discussion which is useful to review as a means of outlining some of the issues involved.

The various points of view within the existing literature address themselves in large part to two broad issues: the effect of inclusive rates on hospital costs and the implications for the quality of medical care. While neither issue encompasses all the pros or all the cons, the differing treatments of them can be usefully organized in that way.

Advantages of the inclusive rate are identified and discussed around the following assertions:

- The administrative function of billing is simplified and clerical costs are therefore reduced.[1,2,3,4] It is also argued that significant nursing time might be saved.[3]

- Savings will accrue in the revenue-generation process.[1,3,5,6] An inclusive bill with only a few line items will be easier to understand so the collection period would be shorter. Since the simpler bill should be rendered promptly, the hospital's receivables and financing costs would be reduced as well.

- The hospital would be able to deliver more complete health care. The attending physician can practice his profession without reference to the patient's financial resources.[2,3,4] Doctors will also be better able to practice preventive medicine.[8]

- The patient's anxiety would no longer be increased by uncertainty over the eventual cost of his hospitalization or by misunderstanding of the bill.[2,3]

---

*An annotated bibliography of the literature on inclusive rate charging appears in Appendix 2.

Similarly, the disadvantages are cited both in terms of administrative issues and in terms of medical practice. There being little or no consensus on inclusive rates in the literature, certain areas of "advantage" appear among the "disadvantages" as well.

- Payer groups which have traditionally required a billing audit will not accept the lack of itemization.[3,9]

- Some physicians are paid on a formula based on departmental revenue. These contractual arrangements would be disrupted, if not unworkable altogether, under inclusive charging.[2,9]

- Inclusive rates are inequitable. Under a rate representing average usage, many patients would be charged for services they did not receive.[10]

- Hospital costs would in fact increase, since without itemization it will be difficult to audit performance.[8]

- Without revenue centers, capital appropriations and new equipment procurement decisions would be more difficult.[9]

The overriding issue in the literature, and one on which opinion is fundamentally divided, is that of utilization.[2,4,8,9,11] On the one hand, it is feared that without direct economic disincentives ancillaries will rapidly become overutilized, thus offsetting any administrative cost savings. The counter assertion is made that any such increase in utilization would merely reflect the way in which *a la carte* billing distorts proper medical care. On a related issue, given the higher ancillary usage in the first days of a patient's stay, it is suggested that the institutions themselves might come to prolong the stay to balance costs with revenues generated from a flat average per diem.[7]

The points raised in the literature reflect the essentially qualitative and *a priori* nature of the discussion to date. But the issues are on the whole relevant and important, and correspond in the aggregate to those raised by a broader sampling of the health system encountered during the course of this study. These reactions, and the experiences of those with actual experience with forms of inclusive charging, historically and currently, have in fact provided the central focus of the study and their analysis will be pursued in detail in later chapters.

The History of Patient Charging— A Backdrop to Current Experience

Historically, *a la carte* charging became predominant as a function of medical technology.

Prior to 1900, virtually all hospitals used inclusive rates; medical science had simply not advanced to the stage that different patients received significantly different care. The technological and patient-care innovations of the next twenty-years—the Roentgen Ray, EKG, physical therapy, among others—gave rise to itemized charging. In addition to the traditional "inclusive rate"—normally a per diem based on accommodation and including board and floor nursing—a charge was made for each of the special, ancillary services these medical advances made possible. As the innovations proliferated, so did the number of patient charges.

The 1920's saw the first widespread reaction against the increased itemization and the rising hospital costs. Those hospitals which attempted a return to more inclusive rates, only about 5 percent of the total at that time, used two distinct approaches:

- Laboratory services were treated as a package, their cost reflected in the base accommodation rate.

- Some standard case procedures such as tonsillectomies and maternity service were "flat rated."

While the Depression brought even more fundamental economic pressures on the hospital rate system, the number of inclusive rate hospitals did not change significantly. Despite a renewal on a moderate scale of the academic debate over inclusive rates in the 1950's and early 1960's, further developments in medical science reinstituted the proliferation of itemized charges and during the period 1940 to 1965 the proportion of hospitals using inclusive rates declined to about 2 percent of the total hospitals in the U.S. The advent of Medicare in 1966 had an additional profound effect on inclusive rates. Demands initially anticipated by hospitals for details in billing from such a significant third party payer caused some inclusive rate hospitals to revert to an *a la carte* system. At the present time, then, the number of inclusive rate institutions is very small, probably less than one percent of the nongovernment hospitals in the U.S.

University Hospitals of Cleveland— An Illustrative Example

The University Hospitals of Cleveland became a pioneer institution in the implementation of inclusive charging in the early 1930's, after it was noticed that utilization of ancillary services by welfare patients was substantially higher than that by self-pay patients. Analysis indicated that physicians hesitated to order costly services for self-pay patients (Blue Cross was not then available in Ohio) but felt no such compunctions about ordering for welfare patients all services medically indicated, regardless of charges.

In an attempt to improve this situation, charges were gradually made more inclusive. Initially, charges for laboratory services were spread among all patients. In the late 1920's, flat rates were installed for tonsillectomies and maternity cases. By 1932 inclusive rates, varying only by length of stay and type of accommodations, were in effect for all patients. During a two-year trial period, the hospital ran dual systems; on admission patients were offered a choice of the *a la carte* charging system, or the inclusive basis, which was presented as a guarantee against excessive ancillary charges. During the period, less than 2 percent of the patients elected to "take their chances" on *a la carte* charges.

CURRENT OPERATING EXPERIENCE WITH INCLUSIVE RATE CHARGING

Although inclusive rate charging is not new, the discussion to date has been largely subjective and qualitative. As part of the attempt to obtain more precise and quantitative information, this study has included depth analysis of several hospitals currently using inclusive rates. The focus of this analysis was on hospital operations, the hospital's relationship with payers and the effect of the charging system on the medical staff.

The Institutions

Some 5,800 hospitals in the U.S. provide short-term care. (Federal hospitals and long-term specialized institutions have not been studied because of their unique, non-representative financial characteristics.) These fall into three broad categories:

- *Governmental:* A fourth of non-federal short-term beds are in institutions operated by state and local governments. While some use an inclusive rate, these tend to be local units which had no charging system until they instituted a rough rate to collect under Medicare and Medicaid; these are not considered representative for purposes of this study.

- *Voluntary, nonprofit* institutions account for almost 70 percent of short-term beds.

- *Proprietary:* Profit-making institutions provide the remaining six percent of the beds.

Within the latter two categories, the overwhelming preponderance of hospitals render bills to individual patients with charges itemized for services provided. Based on American Hospital Association and Boston Consulting Group surveys, only twenty-seven nongovernment, acute general care institutions in the U.S. use inclusive rates.*

The Boston Consulting Group interviewed fourteen hospitals during this early phase of the study. In addition to the eight inclusive rate institutions indicated in Exhibit 2, six others were contacted (and are listed in Exhibit 3)–one governmental institution on inclusive rates, one Kaiser hospital, one Canadian hospital with inclusive charging, and three hospitals which formerly used inclusive rates.** These additional interviews were selected to broaden the cross-section contacted, in conformity to the type, size and geographical parameters used in the cost-related research reported in Chapter Two.***

*The Boston Consulting Group has verified that the twenty-seven institutions listed in Exhibit 2 do in fact use inclusive rates. An additional ten hospitals, shown as inclusive rate institutions in the AHA data, were found to be using itemized charges. No attempt was made to ascertain the number of government institutions whose billing system conforms to the inclusive rate definition, the belief being that the "single payer" characteristic would distort the applicability of any findings to the private sector. Similarly, the Kaiser hospitals were excluded from the list because of the unique relationship with the Kaiser health plans. There may be other inclusive rate users not listed because of erroneous- or non-response to the AHA survey; approximately ten percent of the institutions surveyed did not return their questionnaires.

**The reasons institutions gave for reverting to *a la carte* charging are indicative, even at this stage of reporting. *Beth Israel (Newark)* dropped inclusive rates in 1968 after thirty-eight years of use, the immediate reason being that Beth Israel anticipated a preference by Medicare for itemization; the reversion was also against a backdrop of negative patient reaction over comparison of Beth Israel's inclusive rate to the noninclusive room charges of other Newark hospitals. *Glenwood Hospital,* charging on an inclusive basis from 1941 to 1965, reverted to itemized charging, its present staff believes, because of a need to increase revenues in the face of an operating deficit. *Evanston* has been off inclusive rates since the mid-fifties and no one presently on the staff had any knowledge of the circumstances behind the decision.

***The small number of inclusive rate institutions prevented strict conformity. For instance, with the exception of Glenwood Hospital (a *former* user) no qualifying rural hospital could be included (although subsequent to this stage of the research it was brought to our attention that a small rural hospital in Minnesota currently charges on an inclusive basis).

EXHIBIT 2

NONGOVERNMENT ACUTE GENERAL HOSPITALS CURRENTLY USING INCLUSIVE RATES

1. Cleveland Area

Euclid General Hospital Euclid, Ohio	V, M 293 beds
Evangelical Deaconess Hospital Cleveland, Ohio	V, M 232 beds
Hillcrest Hospital Mayfield Hts., Ohio	V, M 199 beds
Huron Road Hospital Cleveland, Ohio	V, M 403 beds
Mount Sinai Hospital of Cleveland Cleveland, Ohio	V, M 533 beds
Polyclinic Hospital Cleveland, Ohio	V, M 144 beds
St. Luke's Hospital of Methodist Church Cleveland, Ohio	V, M, 3, 4 490 beds
St. Vincent Charity Hospital Cleveland, Ohio	V, M 431 beds
University Hospitals of Cleveland Cleveland, Ohio	V, M, 3, 4, 5 986 beds

2. New York City Area

Bronx-Lebanon Hospital Center Bronx, New York	V, M, 3, 4 564 beds
Brookdale Hospital Brooklyn, New York	V, M, 3, 4, 5 344 beds

EXHIBIT 2 (Continued)

Brooklyn Womens' Hospital Brooklyn, New York	V, M, 3 71 beds
Community Hospital of Brooklyn Brooklyn, New York	V, M 128 beds
Hillcrest General Hospital **Flushing, New York**	**P, M 246 beds**
Italian Hospital New York, New York	V, M 57 beds
Jewish Hospital and Medical Center of Brooklyn Brooklyn, New York	V, M, 3, 4, 5 592 beds
Kingsbrook Jewish Medical Center Brooklyn, New York	V, M, 3, 4, 5 817 beds
Lifferts General Hospital Brooklyn, New York	P, M 160 beds
Maimonides Medical Center Brooklyn, New York	V, M, 3, 4, 5 568 beds
Trafalgar Hospital New York, New York	V, M 145 beds
Unity Hospital Brooklyn, New York	V, M 220 beds
Williamsburg General Hospital Brooklyn, New York	P, M 114 beds

3. Other

Doctors Hospital Washington, D.C.	V, M 323 beds

EXHIBIT 2 (Continued)

Lake View Memorial Hospital Two Harbors, Minnesota	V, R 87 beds
Port Huron Hospital **Port Huron, Michigan**	**V, M 187 beds**
St. Francis General Hospital **Pittsburg, Pennsylvania**	**V, M, 3, 4, 5 812 beds**
West Valley Community Hospital Encino, California	**V, M 152 beds**

KEY

V = voluntary
P = proprietary
M = metropolitan
R = rural
3 = residency approved by American Medical Association
4 = internship approved by American Medical Association
5 = medical school affiliation, reported by American Medical Association

Bold face indicates those hospitals visited by The Boston Consulting Group

EXHIBIT 3

OTHER HOSPITALS VISITED DURING PRELIMINARY PHASES OF THE STUDY

Bess Kaiser Memorial Hospital Portland, Oregon	V, M 209 beds Kaiser Medical Plan
Cook County Hospital Chicago, Illinois	G, 3, 4, 5, M 2300 beds government hospital using IR
Evanston Hospital Evanston, Illinois	V, M, 3, 4, 5 507 beds used IR in the past
Newark Beth Israel Medical Center Newark, New Jersey	V, 3, 4, M 514 beds used IR in the past
Glenwood Hospital Glenwood, Minnesota	V, R 40 beds used IR in the past
Hospital for Sick Children Toronto, Ontario, Canada	V, M 800 beds using IR

KEY

V = voluntary
M = metropolitan
R = rural
G = government
3 = residency approved by American Medical Association
4 = internship approved by American Medical Association
5 = medical school affiliation, reported by American Medical Association

Analysis of the eight user hospitals underscores the variety possible within the concept of inclusive rate charging

- Only one of the eight uses a "pure" average per diem. This is defined as a flat rate per day regardless of treatment, possibly differing by type of accommodation, and net of any excluded services.

- Two others use modified average per diems, differentiated by patient-type (and presumably projected ancillary use). One has a separate rate for each of six services–medical/surgical, pediatric, obstetric, rehabilitation, special unit–CCU/ICU, psychiatry. The other effects a "front-end load" by charging the average per diem for the number of days of stay plus one.

- The remaining five use variable per diems, with the daily rate differentiated by length of stay.

- None practices its inclusive rate type, above, to the exclusion of modifications or exceptions. Four institutions have separate maternity schedules; one attempts to differentiate by level of service (minor vs. major surgery); four charge extra for intensive care; and all but one have different levels of charging by type of accommodation.*

The differences among the eight hospitals reflect an attempt to derive an appropriate analog for *averaging the ancillaries included* under the per diem. Similarly, in all eight cases certain ancillaries are *excluded* from the inclusive rate, and are charged separately. In most instances these are either infrequently administered or expensive (and specific) enough to otherwise distort the inclusive rate level:

- Most institutions exclude special appliances, such as internal cardiac pacemakers.

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*Intensive care is generally treated as part of the accommodation issue since the increased cost of care primarily reflects additional nursing time–the industry estimates nine hours per patient day versus four for intermediate care–rather than high ancillary usage. Most of the institutions view accommodation rate differentiation as a necessary means of revenue generation. The one administrator above who does not feels strongly that the assignment of accommodation can frequently be a medical decision; in his institution, room assignment is made by the house staff based on the need to separate an individual patient from other patients.

- Six of the hospitals itemize "special drugs"; the category is generally ill-defined and used to invoke extra charges for very expensive pharmaceuticals should additional revenue be needed.

- All eight exclude blood. The reasons cited were largely that blood is also excluded from most insurance contracts, and that "replacement" is a critical factor in blood supply.

- Anesthesiologists' fees are billed direct in all the hospitals, since the anesthesiologists prefer to charge the patients personally.

- Two of the institutions exclude the operating room and have a special charge for this.

- Numerous other item exclusions are practiced, and on the whole seem to be based on local patterns of insurance coverage and on the administrators' assessment of revenue generation potential by item.

There are presently no completely inclusive rates in use. The Kaiser-type health plans, with their capitation charge, clearly represent the purest form of usage averaging, but differ from the generally accepted definition of inclusive rate insofar as hospital reimbursement in the form of a subscription fee divorces charges from actual utilization entirely. The inclusive rate systems in operation today in the U.S. are arrayed over the spectrum between this extreme and the industry norm of ancillary itemization; their sole operational unity is an attempt to eliminate individual charge items for frequently provided services.

The Third Party Payers

The eight inclusive rate hospitals have, of course, had to come to grips with third party reimbursement procedures–procedures that are geared to an industry 99 percent *a la carte.* In summarizing the hospitals' experiences it is useful to treat separately those payers who reimburse on the basis of charges rendered to the insured and those who pay on the basis of the cost of services performed.

Charge Payers. Reimbursement by charge payers has on the whole come to be based on the individual hospitals' inclusive rate systems, although certain accommodations have had to be made by the hospitals themselves. For each of the eight institutions, there are at least some insurance carriers who request a statement splitting the routine and ancillary portions of the inclusive rate; this is usually the case for commercial carriers, whose benefit structures frequently differentiate between routine and ancillary coverage. In isolated cases, hospitals have to support the rate with information from the medical record; theoretically, this could lead to difficulty since any given patient might be a below-average consumer of ancillaries. In no reported instance, however, has a carrier rejected a hospital's charges. Where certain ancillary items are excluded under a carrier's contract, the general procedure has been for the carrier to pay the full inclusive rate (although this may be more a case of the carriers' unwillingness to expend the time and cost to audit charges from one percent of the hospital population than an indication of the insurance industry's probable posture should inclusives become more widespread). In some cases the carrier pays only a percentage of the ancillary bill—netting out the excluded service portion—and the hospital charges the balance to the patient.

Cost Payers—Blue Cross: Although in some regions Blue Cross pays charges, in each of the eight hospitals studied Blue Cross was in fact a cost payer. The inclusive rate hospitals' experiences with their Blue Cross plans have been quite satisfactory. In five of the eight cases, final settlement involves (1) determining total allowable costs applicable to all patients, (2) dividing this by the number of patient-days delivered to produce an average cost per patient day, and (3) multiplying this by the number of days delivered to Blue Cross subscribers. In one other hospital, this procedure is used after "carving out" Medicare reimbursement and patient-days prior to determing average allowable Blue Cross cost per day. The remaining two institutions use an RCCAC approach: inclusive charges applicable to Blue Cross patients are divided by total inclusive charges and the result is applied to total allowable costs. (In both cases, the inclusive rate is a variable per diem; presumably, however, the method would be appropriate for any rate type that differentiates service levels via an effective analog.)

Cost Payers—Medicare. As mentioned previously, hospitals initially perceived that Medicare preferred inclusive charging, which had a profound effect on the concept's use. Only two of the eight hospitals have been able to accommodate Medicare reimbursement requirements without resorting to maintaining certain itemized utilization data. One of the two uses the inclusive form of RCCAC, above, applied to the Medicare population; this hospital is again one of those using a variable per diem inclusive rate. The second is reimbursed on the basis of its own average per diem cost, established on the basis of special cost studies showing Medicare patients are as expensive to treat on an average daily basis as others in the hospital. The other six inclusives must use a more traditional form of cost allocation: a utilization fraction for Medicare patients must be developed for each departmental cost center, based either on procedure points (Medicare services rendered divided by total services rendered) or a ratio of Medicare charges to total charges using the departmental charge schedule which was in effect prior to the inclusive rate. The utilization fraction is applied to departmental cost and a cost buildup is done for the entire institution.

Cost Payers—Medicaid. The Medicaid reimbursement formula appears generally to be the same as either the Medicare or the Blue Cross formula used at the particular institution. To date none of the institutions interviewed seems to have a separate, third formula for Medicaid.

The Physicians

Within the eight inclusive rate institutions, two groups of physicians were considered. First are the hospital-based physicians whose economic base may be directly affected. This group includes the pathologists, radiologists, and anesthesiologists. A number of different contractual arrangements between these physicians and their hospitals are in common use. Some physicians are on a direct salary, some are paid by the hospital on a fee for service basis, some bill the patient directly. Finally, the hospital may administer the separate billing of the patient and receive a fee from the physician for performing the service.

In all of the institutions surveyed the anesthesiologists continue to bill patients directly and are excluded from the inclusive rate. Their relationship with the hospital has not been affected by the institution of an inclusive rate. Most radiologists in these institutions are salaried for the bulk of their work. Certain special consultations might warrant a fee under their arrangement with the hospital; in such cases, it is billed directly. In one institution, the radiologists are compensated by the hospital on a fee for service basis but the services are included in the inclusive rate. In this case, the compensation is computed from the utilization log in the department and is based on a fee per procedure. The pathologists in seven of the hospitals interviewed work on a salary basis except for certain esoteric tests which are billed directly on a fee for service basis. The eighth hospital compensates its pathologist on a fee per procedure basis, using gross utilization data.

In all the hospitals visited, this group of physicians was able to reach a satisfactory financial arrangement with the hospital administrator without major difficulty. No professional ethical problems arose; in particular, the stigma of becoming a "salaried employee" of the hospital was successfully avoided where that consideration was an important one.

Further, the hospital-based physicians noted some peripheral benefits—for example, a simplified decision making process for capital appropriations: funds can be justified on the basis of patient use of facilities. Another advantage noted is the promotion of earlier acquisition of technologically sophisticated, though costly, new diagnostic or therapeutic services made possible by spreading a small charge over the whole patient load, in contrast to a prohibitively high charge to the individual patient on a "pay for what you use" basis.

The second group of physicians concerned is the attending staff of the hospital. Among this group initial reaction to the inclusive billing system ranged from minimal interest through mild reservation—mainly regarding certain groups of short stay patients paying too much—to serious concern about volume of hospital practice in one institution on the part of one specialty group (obstetrics). Subsequent experience proved generally quite satisfactory, both from the point of view of the attending physicians and their patients. Both groups appreciated the ability to predict more definite financial commitments. The doctors interviewed did not feel that medical staffs were taking advantage of "free" lab or other diagnostic services and it was felt that the general pattern of hospital utilization observed in the medical audit was not affected.

In particular circumstances, overall patient health care benefits from the inclusive rate. It was noted in the one hospital whose inclusive rate does not differentiate per diem rate on the basis of type of accommodation that the medical and nursing staff can place a patient in a private room on the basis of medical need alone—without regard to incurring excess cost to someone who cannot pay. In many cases this was cited as a significant improvement in the general well-being of a group of patients simultaneously, by removing an agitated or disruptive individual from their midst.

SUMMARY

Current knowledge about inclusive rates indicates that the concept is workable, and the experiences of those actually operating under an inclusive charge system do not discourage that impression. On the other hand, taking these sets of inputs as a starting point, the tradeoffs between the theoretical advantages and disadvantages are not clearly resolved. In the absence of careful analysis and planning, widespread conversion to inclusive rates might incur substantial changes in the hospital field and generate undesirable frictions.

The task is to (1) quantify the benefits accruing from inclusive rates, particularly those in the area of cost savings at the outset; and (2) analyze the more qualitative issues in a rigorous way, to focus clearly on such consequences as might in fact be problematic. The result should be, first, to ascertain whether inclusive rates are an attractive alternative to the present itemized system; and second, if so, what is the optimum form for such rates—out of almost limitless choices—so as to maximize the advantages and minimize, if not avoid, the difficulties.

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8. United Hospital Fund of New York, Greater New York Hospital Association. "Contest Debate—Inclusive Rate vs. A La Carte Methods of Charging". 1944.

9. American Hospital Association, *Report of the Committee on Inclusive Rates to the Council on Administrative Practice.* May 12, 1945.

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Chapter Two

ADMINISTRATIVE COST EFFECTS OF INCLUSIVE RATES

A major element of this study was determination of the degree to which hospital administrative costs would, in fact, be affected by implementation of inclusive charging procedures in institutions now using *a la carte* methods. To analyze the likely cost effects, the Systems Engineering Group of The Massachusetts Hospital Association investigated billing procedures and costs in seven Massachusetts hospitals presently using *a la carte* charges, and computed the cost changes which would arise under more inclusive billing procedures.

SELECTION AND DESCRIPTION OF STUDY HOSPITALS

Study Hospital Selection

From the outset, it appeared that implementation of an inclusive rate charging system could have a varying impact on the patient accounting procedures and associated costs of different types of hospitals. For example, a large hospital with an automated billing function might realize operational changes significantly different from those occurring in a smaller hospital utilizing manual data processing techniques. Thus, the structuring of the study hospital sample was important to ensure meaningful and representative results.

Although it was impossible to select seven study hospitals which would truly represent a model of the hospital industry, consideration was given to several hospital characteristics which seemed to be potentially important to the study results.

The following major dimensions seem to characterize the nature of a hospital:

- objective, primary function, services
- control and ownership
- modes of operation
- size
- geographic location
- type of target population, type of payment
- length of average stay

There are dimensions which intuitively seem to have an impact on the elements of the hospital's cost structure. Even if only two or three classes per dimension were chosen, however, the sample for the analysis would become unmanageable, even if only one hospital were chosen for each class. Fortunately it turns out that only a few characteristics are important since most hospitals are clustered in certain classes and some dimensions are correlated. For example, rural hospitals tend to be small, government control will be associated with long term stay, teaching hospitals are mostly metropolitan and large.

In this context, attention was focused on the following factors in the selection process:

Location:	metropolitan rural
Control:	municipal non-government, non-profit proprietary
Function:	teaching, affiliated w/medical school non teaching
Size:	several classes
Medical Services:	acute general (only)
Data Processing:	manual automated

For selection purposes, an appropriate classification of the nation's hospitals according to the above factors was required to ensure that each hospital selected for study would represent a major portion of the industry. To provide such a data base, the American Hospital Association's 1969 Hospital Profiles of affiliated institutions were obtained and analyzed.

Exhibit 4 illustrates the information resulting from a tabulation of the AHA Profile data. The information, presented in matrix form, indicates the number of hospitals of a given size having a particular combination of characteristics (e.g., metropolitan, municipal, teaching). As expected, the majority of hospitals cluster into particular groups having certain factors which were more highly correlated than others.

EXHIBIT 4

NATIONAL TALLY OF HOSPITALS BY SELECTED CHARACTERISTICS AND SIZE**

(5759 HOSPITALS)

Metro	Rural	Municipal	Proprietary	Non-gov't Non-profit	Teaching, Affiliated with Medical School	6 — 49 Beds	50 — 99 Beds	100 — 199 Beds	200 — 299 Beds	300 — 399 Beds	400 — 499 Beds	500+ Beds
X		X			X	—	—	1	4	6	3	27
	X	X			X	—	—	—	—	—	—	1
X				X	X	1	2	9	20	44	40	**80***
	X			X	X	—	1	—	1	3	1	2
X		X				35	53	77	43	**21***	12	19
	X	X				607	**391***	166	30	5	3	1
X				X		161	262	**452***	346	**214***	93	54
	X			X		592	538	**405***	96	32	7	2
X			X			168	141	**92***	21	5	—	—
	X		X			263	83	22	1	—	—	—

Excluded From This Table:	584 State Hospitals
	426 Federal Hospitals
	493 Long Term Hospitals

*Study hospitals selected from these groups

**Information obtained from AHA Survey, 1969

From the grid, a combination of seven “groups” were selected as types of hospitals which could logically make up the study sample. These “groups”, denoted on the grid by asterisks, each represents a point of concentration for a major segment of the nation’s hospitals. This is not to imply that the study sample is truly representative of the hospital industry. To the contrary, the selection merely provides a set of significant hospital types based upon the selection criteria previously described.

Industry information regarding the types of data processing techniques (manual vs. automated) generally employed by each hospital “group” was not readily available. However, for selection purposes, it was assumed that larger hospitals (300 beds or more) generally employ the use of computers, while smaller hospitals (less than 150 beds) normally perform the entire patient accounting function manually.

It should be noted that 1503 state, federal, and long-term care hospitals were excluded from the selection process. Because of unique internal financial and budgetary requirements, these types of institutions often employ patient accounting systems which vary substantially from the classic itemized charging system employed throughout the industry. Study time and scope did not permit the expansion of activity which would have been required to properly document and evaluate this segment of patient accounting practice.

Study Hospital Descriptions

Seven Massachusetts hospitals were selected for study. Each institution represented one of the seven generic hospital “groups” previously identified on Exhibit 4. Each was visited by the study team, interviewed for general appropriateness of selection, and encouraged to participate in the study. All of the hospitals initially selected for study agreed to take part.

Summary descriptive information about the seven study hospitals is displayed in Exhibits 5 and 6. Characteristics vary widely among institutions; bed size ranges from 59 to 1064; annual outpatient visits from 4700 to 358,000; occupancy from 75 percent to 101 percent; and data processing techniques from totally manual to highly automated. The payer configuration also varies between hospitals, with percentage of Blue Cross patients ranging from 33.5 percent to 55.0 percent, for example. On the other hand, all are general short-term acute care hospitals, and each employs an itemized patient charging system throughout. Brief profiles of the study hospitals are presented in Appendix 3, Part A.

EXHIBIT 5

CHARACTERISTICS OF STUDY HOSPITALS

Study Hospital	Beds	Metro/ Rural*	Ownership**	Occupancy	Average Length of Stay	Annual Admissions	Annual OPD Visits	Fiscal 1969 Operating Budget	Electronic Data Processing	Comments
Amesbury	59	R	M	74.9%	10.2	1,578	4,700	$ 1,028,000	None	
Doctors' Worcester	121	M	P	101.1	10.4	4,260	5,700	$ 2,291,000	None	
Somerville	148	M	C	96.5	9.6	5,386	56,800	$ 5,071,000	None	
Marlboro	150	R	C	80.3	7.8	5,675	39,400	$ 3,616,000	Own Card Processor	
New England Deaconess, Boston	360	M	C	91.2	11.6	10,321	11,260	$13,154,000	Lease Computer	Teaching Affiliation with Harvard Medical School
Quincy City	383	M	M	79.7	7.9	15,525	32,600	$ 8,277,000	Group Shared Computer Program	
Massachusetts General, Boston	1,064	M	C	91.6	13.3	26,687	358,300	$51,778,000	Lease and Own Computers	Teaching Affiliation with Harvard Medical School

*Metro/Rural classification as designated by AHA 1969 Hospital Profiles

**M = Municipal; P = Proprietary; C = Non-Profit; Non-Government

EXHIBIT 6

STUDY HOSPITALS

PERCENTAGE OF PATIENTS BY PRIMARY PAYER

Study Hospital	Blue Cross	Medicare	Medicaid	Commercial	Self-Pay	Other
Amesbury	51.1%	24.2%	1.4%	12.6%	9.3%	1.4%
Doctors', Worcester	49.0	18.0	13.5	14.5	3.0	2.0
Somerville	33.5	22.0	17.0	17.9	6.7	2.9
Marlboro	55.0	15.0	6.0	19.0	4.5	0.5
New England Deaconess, Boston	48.5	29.2	4.0	15.3	3.0	–
Quincy City	46.0	21.0	9.0	19.0	3.0	2.0
Massachusetts General, Boston	45.1	19.0	14.4	8.0	8.6	4.9

DOCUMENTATION AND MEASUREMENT OF PRESENT SYSTEM

Study Scope

The primary goal of the documentation effort conducted in the seven study hospitals was to provide a basis for evaluating expected in-hospital operating changes and associated potential cost reductions under various feasible inclusive rate schemes.

It was clear from the outset that the hospital patient accounting function would realize major alterations through the introduction of an inclusive rate charging method. For example, itemized patient charges would be virtually eliminated, and individual patient bills would be greatly simplified. Additionally, certain billing-related activities which are dependent presently upon the availability of itemized patient charge information would become redundant and/or require modification under an inclusive rate system. Income (revenue) distribution analyses, for instance, currently serve as a means of allocating hospital revenues to particular "revenue-producing" departments. These analyses are employed during final settlement as a means of apportioning departmental costs between certain third-party payers operating under the RCCAC method of payment. Itemized patient charge data presently provide the basis for such an allocation of revenues.

Thus, the scope of the study documentation effort was defined to include the entire in-hospital patient accounting process as well as closely related or "by-product" activities.

A simplified process chart of the activities composing a typical *a la carte* hospital patient accounting system is displayed in Exhibit 7. Notice that the activities included range from the initiation of the patient's account, credit screening, and insurance verification through generation of the patient's bill, follow-up, collections, and by-product statistics and analyses.

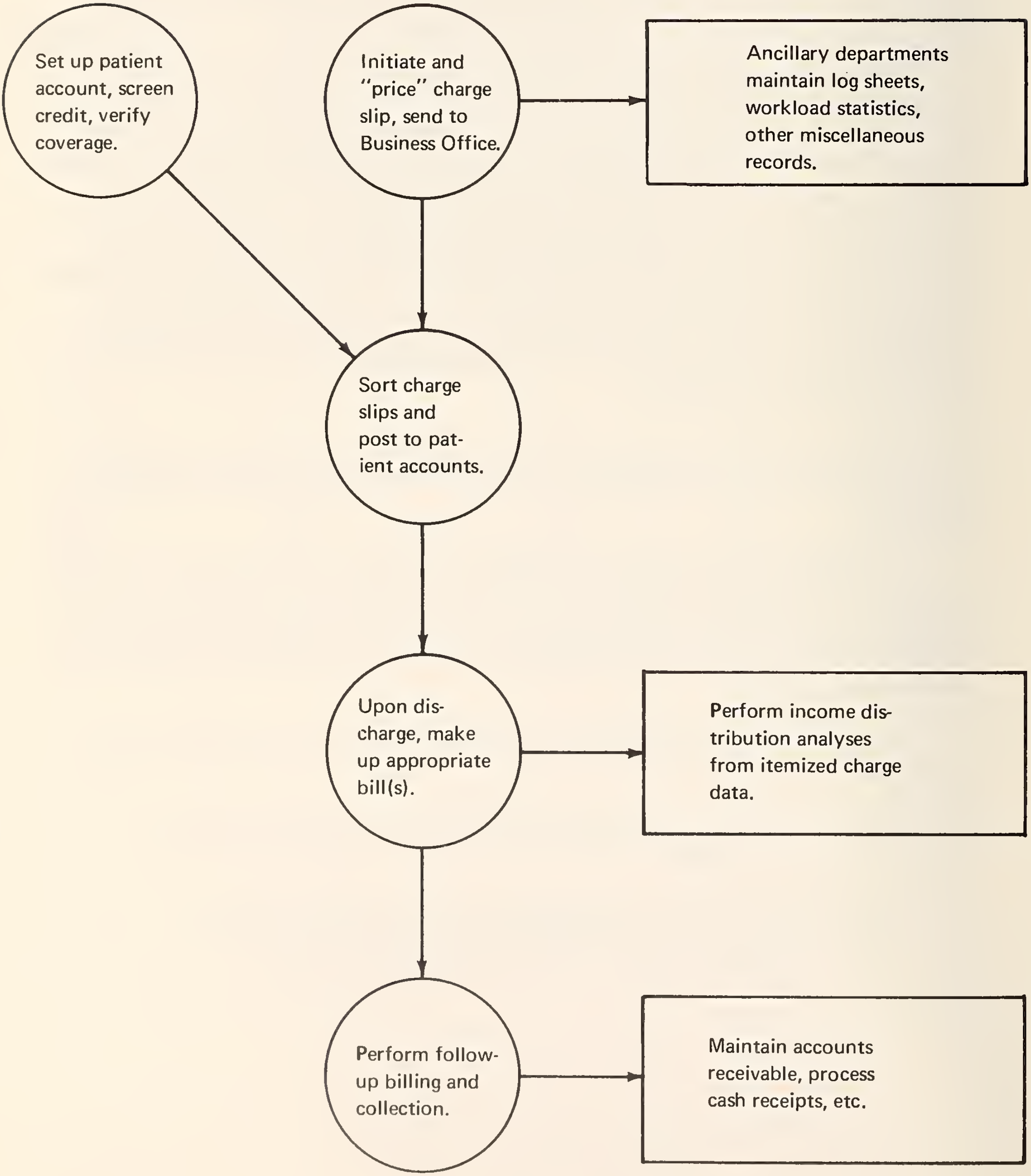
For study purposes, this patient accounting process was stratified into a set of *major functions:*

- *Financial Admission:* setting up the patient account upon admission, and screening credit.
- *In-Hospital Control:* maintaining the account during the patient's stay, up-dating as charges or interim payments are incurred.

EXHIBIT 7

HOSPITAL PATIENT ACCOUNTING

GENERAL PROCESS CHART: PRESENT ITEMIZED CHARGING SYSTEM


Set up patient account, screen credit, verify coverage.
Initiate and "price" charge slip, send to Business Office.
Ancillary departments maintain log sheets, workload statistics, other miscellaneous records.
Sort charge slips and post to patient accounts.
Upon discharge, make up appropriate bill(s).
Perform income distribution analyses from itemized charge data.
Perform follow-up billing and collection.
Maintain accounts receivable, process cash receipts, etc.

- *Billing:* identifying responsible parties and submitting initial bills.

- *Follow-up and collection:* expediting and processing payments and settling accounts.

- *Related Financial and Statistical Aspects:* performing certain additional activities which are presently derived from or performed in conjunction with the processing of itemized patient charges and billing information (e.g., income distribution, departmental workload statistics, receivables ledgers).

The procedures making up each major function are listed and defined in Appendix 3, Part B. In general, these procedures represent a sequential record of events in the life of a patient account. However, to facilitate the documentation process and make cohesive the resultant cost analysis, certain activities which actually occur early in the sequence are treated as if they occur later. For example, insurance verification, which is normally initiated upon admission, has been considered an integral part of the *billing* function for purposes of this study. This procedure classification method in no way alters the results of this study. It serves to describe more meaningfully the patient accounting system, by organizing activities into the logical functional groupings.

Data Collection Methodology

Prior to beginning in-hospital documentation efforts, the study team developed a detailed plan for accomplishing the data gathering process. The plan can be outlined in the following manner:

1. Identify all procedures being performed *throughout the hospital* which are an integral part of the patient accounting process.

2. Document the annual volume of occurrence for each procedure.

3. Identify the department and employee classification responsible for performing each activity.

4. Identify the staff and computer time (if any) required annually to perform each activity at the designated frequency of occurrence.

5. Compute the annual operating cost associated with the performance of each procedure, and for the entire patient accounting function (sum of procedures).

Since in-patient and out-patient accounting systems were expected to vary significantly in work magnitude and nature, workload and costs associated with each system were to be documented and evaluated separately. The methodology and results relating to outpatient billing and data collection are presented in Appendix 1.

Drawing upon previous experience in this area, the study team carefully detailed the set of procedures which typically make up the patient accounting functions. Also, the desired source and method of gathering workload data for each procedure was defined. Finally, a comprehensive set of data collection forms, tally sheets, interview questionnaires, and other working papers were developed for use during the in-hospital documentation period.

Data collection was initiated in each hospital by conducting interviews with employees directly involved in the patient accounting function. An average of approximately 30-40 interviews were conducted in each hospital involving employees from the business office and the many ancillary departments which routinely submit patient charges and other information for processing. Details of each procedure were reviewed, and the relationships of each procedure to the overall patient accounting process were noted and documented. Where possible, operating procedure manuals were reviewed to provide verification of the interview information.

Next, classic work measurement techniques were employed as a means for documenting workload required under the current itemized charging system. Data regarding the annual volume (frequency) of performance for each procedure were gathered. Wherever possible, hospital records were employed as the source of such data, with appropriate statistical sampling techniques being employed. Such records included patient accounts, receivables ledgers, departmental logs, admission records, cash receipts journals, and other similar documents.

On certain occasions, a real-time collection of workload data was necessary. However, this technique was employed only for gathering information not otherwise available from existing records, being principally restricted to obtaining tallies of telephone calls and daily posting activities. Data recording by hospital personnel executing the relevant procedures was used for obtaining telephone activity data only.

Finally, the operating costs associated with each of the following cost categories were documented:

- manpower, excluding management personnel
- electronic data processing services (equipment and associated manpower)
- space
- supplies
- standard office equipment
- interest on level of receivables

Actual operating costs relating to the entire patient accounting function were documented. Historical payroll costs, fringe benefit costs, and pay rates for each employee classification were obtained through the hospital controller. Standard costs were developed for each procedure, and were used as the basis for apportioning aggregate departmental manpower costs to individual procedures.

Where EDP services were employed (internal or external), costs of operating and monitoring the service were similarly documented. Costs related to usage of supplies, space, and standard office equipment were estimated from available records and from information furnished by hospital controllers and administrators. The financial level of accounts receivable typically in existence for each hospital was also documented.

PRESENT OPERATING COSTS – INPATIENT

Present Accounting Costs

A summary of the present cost of manpower and computer services devoted to in-patient accounting is displayed in Exhibit 8. For the seven study hospitals (2,285 beds), these costs total approximately $1,097,800 annually. This represents an average cost of $1.46 per patient day, and a cost per admission of $15.81. Manpower costs for the business office and the combined ancillary departments are presented in the exhibit as separate figures to illustrate the relative magnitude of involvement in the patient accounting process by the various departments.

EXHIBIT 8

PRESENT ANNUAL COST OF INPATIENT ACCOUNTING AND RELATED ACTIVITIES UNDER ITEMIZED CHARGING SYSTEM

	BUSINESS OFFICE		ANCILLARY DEPTS.					
Study Hospital	Equivalent Full-Time Personnel	Manpower Cost (%)	Equivalent Full-Time Personnel	Manpower Cost (%)	EDP Service Cost (%)	Total Manpower & EDP Service Cost (%)	Cost Per Admission	Cost Per Patient Day
Amesbury	2.3	$ 11,042 (80)	.3	$ 2,809 (20)	–	$ 13,851 (100)	$ 8.77	$ .86
Doctors'	8.4	54,408 (91)	.8	5,532 (9)	–	59,940 (100)	14.07	1.34
Somerville	5.5	39,356 (87)	.8	5,954 (13)	–	45,310 (100)	8.41	.91
Marlboro	9.4	57,612 (78)	1.6	13,342 (18)	$ 2,969 (4)	73,923 (100)	13.03	1.66
Quincy City	13.5	93,358 (48)	2.6	22,971 (12)	76,786 (40)	193,115 (100)	12.44	1.58
New England Deaconess	11.6	83,994 (59)	2.7	20,736 (15)	37,214 (26)	141,944 (100)	13.75	1.18
Massachusetts General	64.7	385,874 (67)	7.6	56,928 (10)	126,923 (23)	569,725 (100)	21.35	1.60
TOTAL	115.4	$725,644 (66)	16.4	$128,272 (12)	$243,892 (22)	$1,097,808 (100)	$15.81 (average)	$1.46 (average)

The role of the ancillary departments can be categorized into two major activities:

- creating charge slips by recording the appropriate charge on copies of the service requisition, and forwarding these slips to the business office.

- maintaining departmental workload information and statistics in the form of logs, abstract sheets, or other similar documents.

In most ancillary departments, this represents a relatively small workload requiring only a portion of a clerk's time. Exceptions are the radiology and clinical laboratory departments of larger hospitals, where work volume may necessitate assigning certain people exclusively to these activities.

On the other hand, the business office clearly represents the center of inpatient accounting activity for the hospital, being the department where the majority of related costs are incurred. The business office generates and maintains all patient ledgers and bills for service, handles collections, and is generally responsible for the entire patient accounting operation.

In hospitals where electronic data processing services are utilized to support the patient accounting process, these costs were documented as a separate unit. They include the costs of equipment rental (prorated over operational time) plus the costs of related manpower, exclusive of keypunch operators (included in business office staff).

Costs for EDP services reported in Exhibit 8 represent that portion of the in-hospital EDP department's total expenditures on outside service fees devoted to the patient accounting function. Generally, services provided included maintaining patient accounts and receivables ledgers, processing of itemized charges, generating certain patient bills, and performing other miscellaneous processing activities and controls.

To illustrate the scope and nature of the inpatient cost analysis developed for each hospital, a detailed breakdown to procedure-related data for one of the study hospitals is presented in Appendix 3, Part C. Activities making up each major function within the patient accounting system are indicated. Pertinent workload and cost information is presented for each activity. "Standard cost" represents the theoretical cost of performing the procedures given 100 percent productivity of resources, while "actual cost" is the cost of doing the work at actual productivity levels, which are substantially less than 100 percent for all study hospitals. The significance of "below standard" productivity levels is treated in a later section.

The present cost of inpatient accounting for the study group of seven hospitals is summarized by major patient accounting function in Exhibit 9. Similar data for each of the study hospitals is presented in Appendix 3, Part D. Pertinent operating characteristics are also summarized. Notice that In-Hospital Control, Billing, and Follow-up/Collection represent the largest concentration of resource costs (79 percent), while Financial and Statistical Aspects account for only a small share (15 percent) of the total inpatient accounting effort.

Space, Supplies, and Standard Office Equipment – Present vs. Incremental Costs

To permit completion of the study within the established time schedule, no attempt was made to document the *total* present cost of space, supplies, and standard office equipment allocated to the patient accounting system. Instead, the incremental costs associated with the addition or reduction of a single employee to or from the patient accounting function were estimated for cost comparison purposes (i.e., present vs. inclusive rate systems).

Space:

$7.50/ft^2/year x 100 ft^2/employee = $750/employee/year

Supplies:

$30.00/employee/year)

Standard Office Equipment:

$125.00/employee/year

As the subsequent analysis will indicate, these types of cost do not contribute significantly to the cost reduction potential associated with inclusive rate charging systems. Thus, the above cost figures, derived from available hospital records and through interviews with controllers of the study hospitals, are considered sufficiently accurate for purposes of this evaluation.

EXHIBIT 9

PRESENT COST OF INPATIENT ACCOUNTING FOR SEVEN STUDY HOSPITALS

	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P.	
Major Function	**F.T.E.***	**Cost**	**F.T.E.***	**Cost**	**Service Cost**	**Total Cost (% of Total)**
Financial Admission	11.0	$ 70,962	–	–	$ 1,134	$ 72,096 6%
In-Hospital Control	32.9	200,837	4.0	$ 29,341	116,726	346,904 32%
Billing	31.8	205,752	.7	4,189	28,814	238,755 22%
Follow-up and Collection	31.9	204,497	–	–	69,567	274,064 25%
Related Financial and Statistical Aspects	7.4	43,596	11.7	94,742	27,651	165,989 15%
TOTAL	115.0	$725,644 66%	16.4	$128,272 12%	$243,892 22%	$1,097,808 100%

*F.T.E. = Full-Time Equivalent Employees

ALTERNATIVE STATISTICAL LEVELS ASSOCIATED WITH INCLUSIVE RATES

As discussed in Chapter One, several hundred specific rate schemes could provide the basis for structuring an inclusive charging system. From the viewpoint of the hospital business office, each of the alternate rate schemes would dictate a *near-identical* daily operating system.

- Charge slips would be virtually eliminated, and a simple "look-up table" of inclusive charge rates for most schemes would be used to determine the amount of the patient's liability upon discharge.

- Billing and follow-up activities would continue as required under today's itemized charging method, except that listing of itemized charges on patient ledgers and bills would be virtually eliminated. Exceptions would probably include charges for telephone, T.V., take-home drugs, and a few other discretionary items, based on current practice with inclusive rate hospitals.

Any inclusive rate scheme would result in similar billing office simplification. Each hospital, however, must decide on the amount of data collection required for establishing the specific rate level and for providing management information and control. For example, the specific charge structure could be established for a hospital by applying an industry-wide "formula" for cost apportionment to total hospital costs (e.g., a common formula for weighting actual average per diem cost by day of stay co-efficients). On the other hand, each hospital could employ precise cost accounting techniques for apportioning its workload and costs according to rate related classifications (e.g., service, accommodation, day of stay), as a means of developing its customized charge structure.

The study has identified three possible generic "levels" of in-hospital data gathering, corresponding to three principal alternative techniques for establishing charges and providing management information under any of the possible inclusive rate schemes. These can be summarized and illustrated in the following fashion:

Level 1: Rates derived from aggregate hospital cost information. Industry standards and/or formulas applied, as necessary.

Assumed Operating Conditions

Ancillary service departments keep workload statistics on log sheet. Maintain gross count of work volume by procedure, stratified only by inpatient/outpatient. Apply weighted procedure point values as measure of department workload. (See Exhibit 10.)

Example A

Consider a straight average per diem rate applied to all patients. The specific inclusive charge could be derived by simply dividing total hospital costs by total patient days. Workload statistics would serve as productivity indicators for management control purposes.

Example B

Consider a per diem rate, varying by day of stay. To derive the specific charges which would be applied to each day of stay, an industry formula or charge-itemization analog could be employed. Such a formula could be applied to an institution's total operating costs, as a means of developing a unique set of day-rates for the institution. Here again, workload statistics would provide objective information for purposes of management control.

Level 2: Rates derived from workload/cost statistics categorized by appropriate patient classification information which can be *readily determined* at time and point of service.

Assumed Operating Conditions

Ancillary service departments maintain workload log sheet, recording patient classification information determined at time of service. From this information weighted procedure point values accrued within each classification serve as a basis for apportioning costs to each inclusive rate category. (Exhibit 11.)

Example C

Again consider a per diem rate, varying by day of stay (from Example B above). To allow the derivation of specific day rates, service departments could catalog each procedure performed according to the particular day of stay of the patient for whom the service was rendered. (For instance, if the

EXHIBIT 10

HOSPITAL PATIENT ACCOUNTING FUNCTION

GENERAL PROCESS CHART: INCLUSIVE RATE STATISTICAL LEVEL #1

Level #1: *Rates derived from aggregate hospital cost information. Industry standards and/or formulas applied, as necessary.*

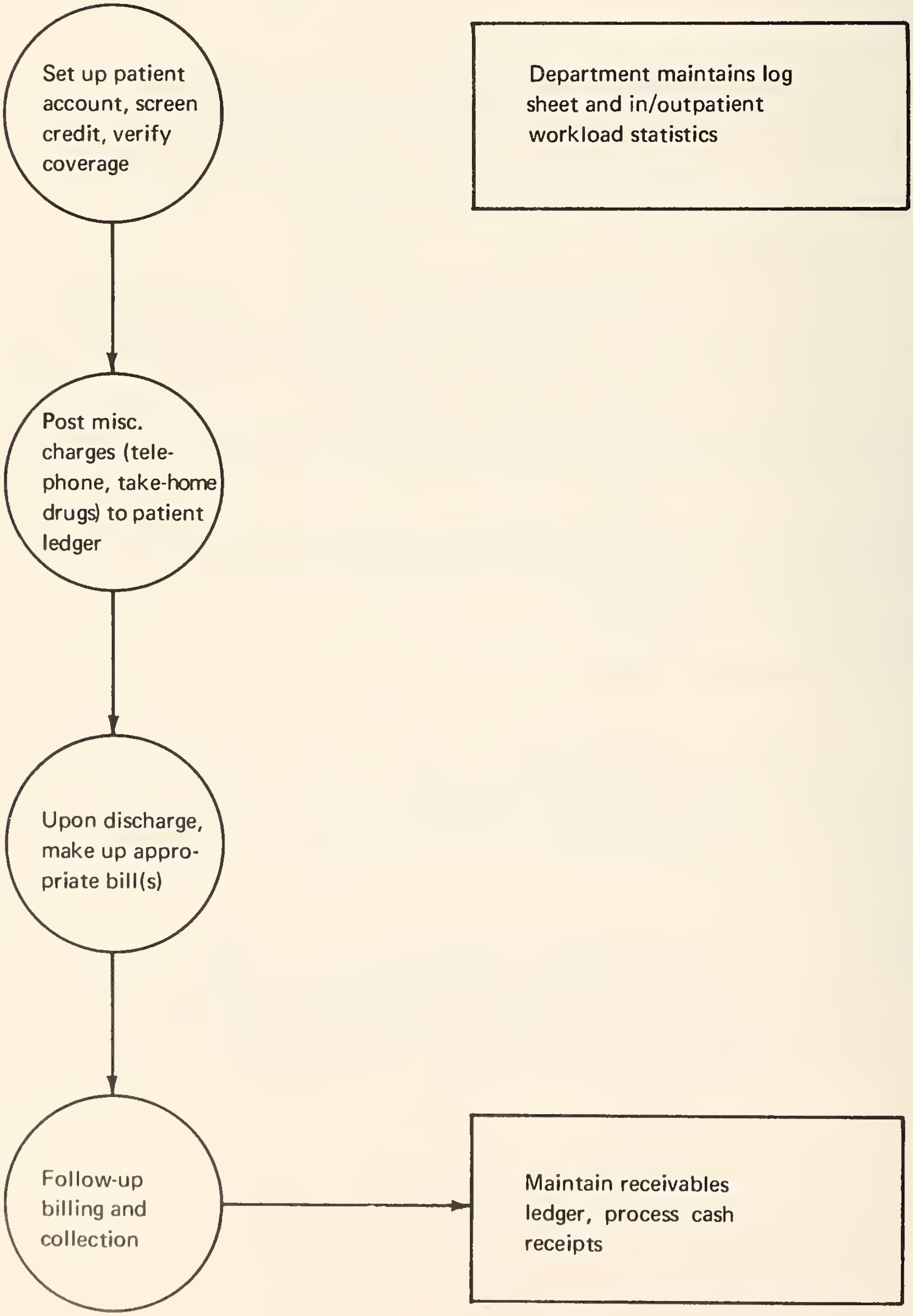
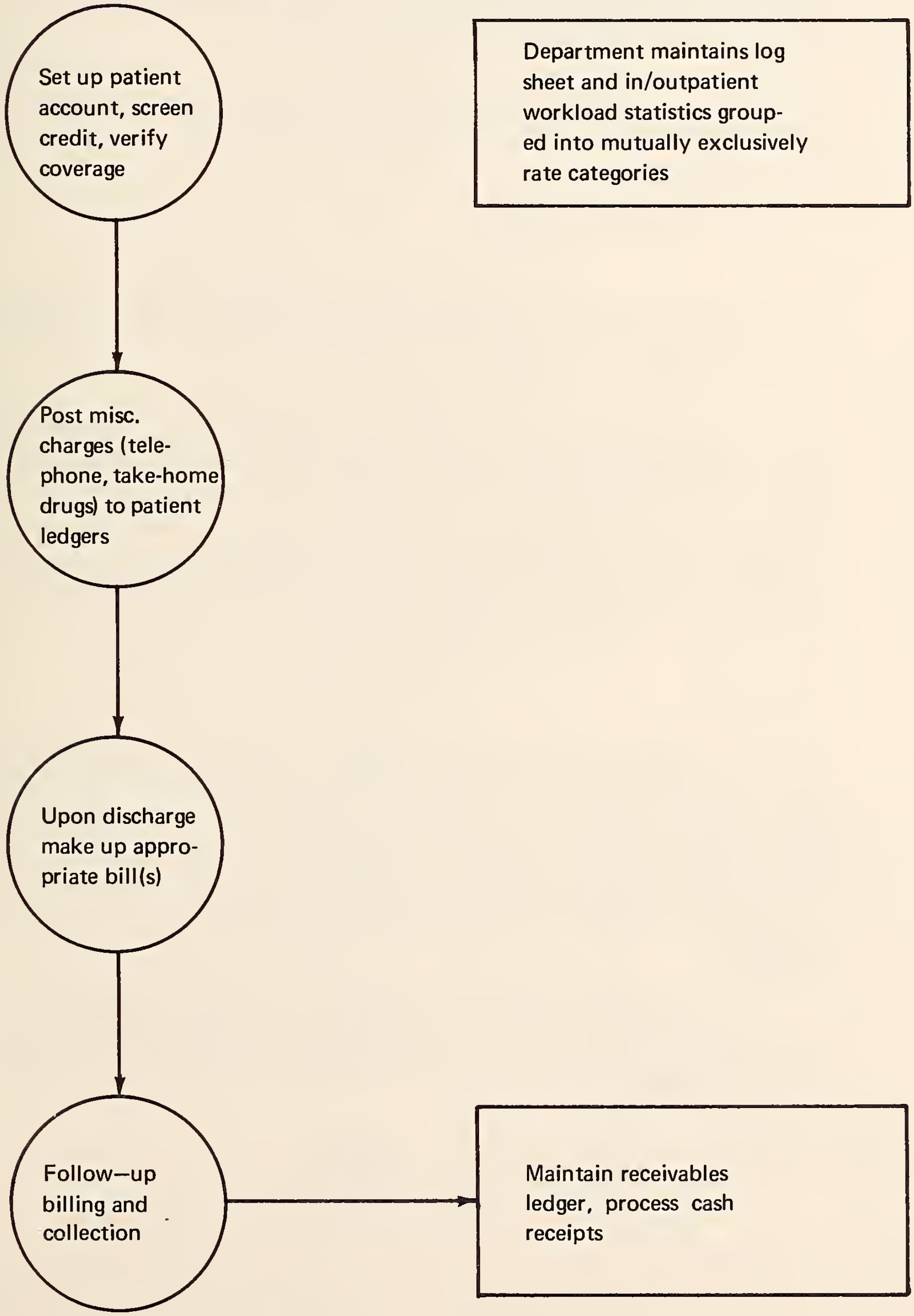

Set up patient account, screen credit, verify coverage
Department maintains log sheet and in/outpatient workload statistics
Post misc. charges (telephone, take-home drugs) to patient ledger
Upon discharge, make up appropriate bill(s)
Follow-up billing and collection
Maintain receivables ledger, process cash receipts

EXHIBIT 11

HOSPITAL PATIENT ACCOUNTING FUNCTION

GENERAL PROCESS CHART: INCLUSIVE RATE STATISTICAL LEVEL #2

Level #2: *Rates derived from workload/cost statistics categorized by appropriate patient classification information which can be readily determined at time and point of service.*


Set up patient account, screen credit, verify coverage
Department maintains log sheet and in/outpatient workload statistics grouped into mutually exclusively rate categories
Post misc. charges (telephone, take-home drugs) to patient ledgers
Upon discharge make up appropriate bill(s)
Follow–up billing and collection
Maintain receivables ledger, process cash receipts

laboratory performed a blood test for a patient during his third day of stay, work associated with the test would be catalogued as service associated with the inclusive rate for the third day of stay). The sums of the work-load activity for each day of stay could be used to apportion total operating costs of the department between various days of stay. Most logically, specific rates would be derived for several day-of-stay groupings. For instance, a scheme grouped as #1, 2, 3, 4, 5-8, 9-15, and 16 and over, would require classification of workload information into one of six rate categories.

Level 3: Rates derived from workload/cost statistics categorized by appropriate patient classification information *not readily* determined at time and point of service.

Assumed Operating Conditions

Copy of service requisition ("statistical slip") sent to business office upon completion of service. Ancillary departments keep only gross workload information as in Level 1 above.

Business office retains "statistical slips", sorted by patient, until required patient classification information (e.g., diagnosis) has been determined. Slips are then sorted by inclusive rate category, for each department. Workload values are assigned to each "statistical slip" and accrued for each department/rate category combination. Department costs are apportioned to each rate category according to accrued workload values for each category. (Illustrated as Exhibit 12.)

Example D

Consider a variable per diem rate for each major discharge diagnosis grouping. To allow for the derivation of specific rates to be associated with each diagnosis grouping, copies of service requisitions could be centrally accumulated for each patient throughout his hospital stay. Upon discharge, the patient's final diagnosis would be determined, and workload values associated with each service rendered would be assigned to the appropriate rate category.

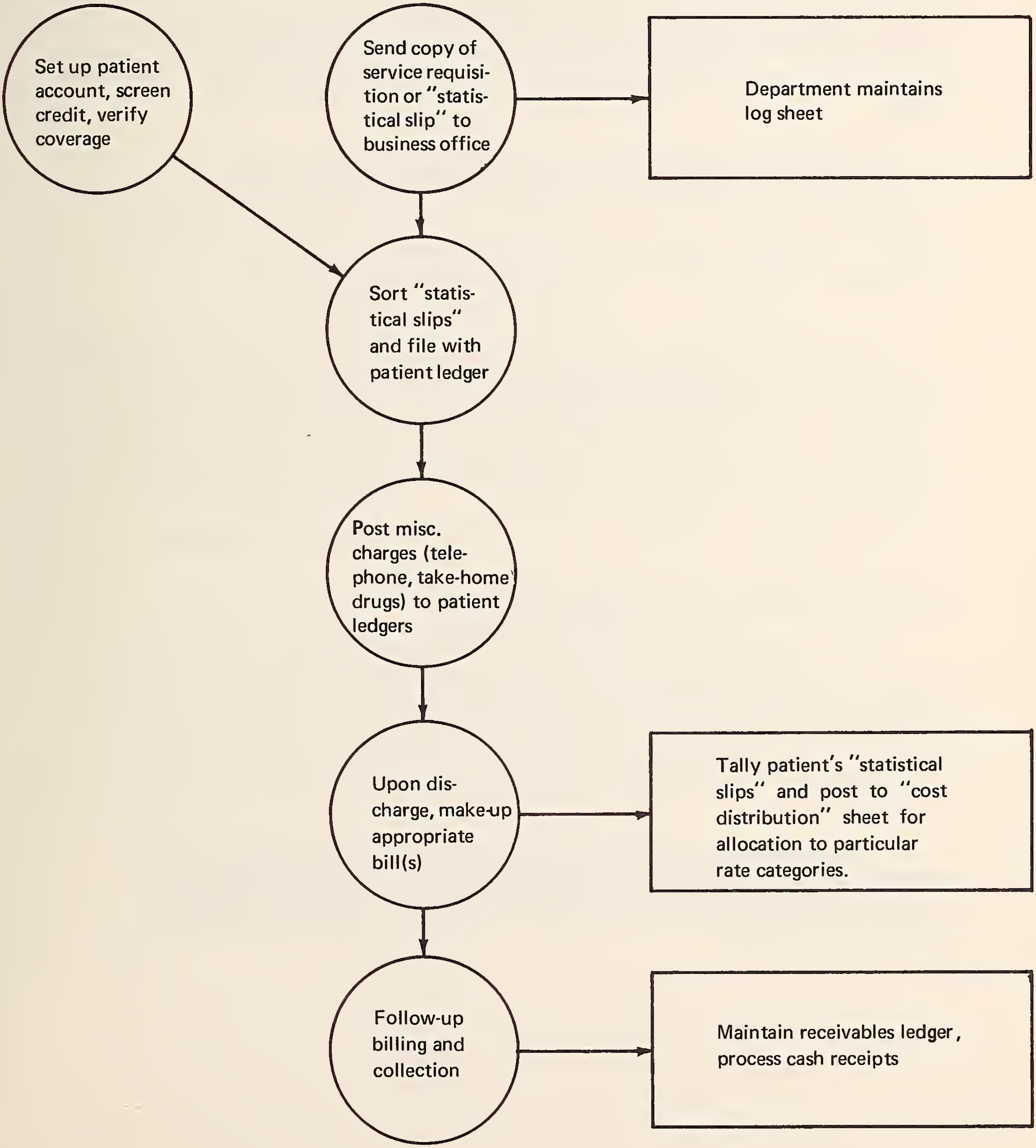
The sums of workload activity accrued for each diagnosis grouping could be used as a basis for apportioning total department operating costs between each rate category.

EXHIBIT 12

HOSPITAL PATIENT ACCOUNTING FUNCTION

GENERAL PROCESS CHART: INCLUSIVE RATE STATISTICAL LEVEL #3

Level # *Rates derived from workload/cost statistics categorized by appropriate patient classification information not readily determined at time and point of service.*


Set up patient account, screen credit, verify coverage
Send copy of service requisition or "statistical slip" to business office
Department maintains log sheet
Sort "statistical slips" and file with patient ledger
Post misc. charges (telephone, take-home drugs) to patient ledgers
Upon discharge, make-up appropriate bill(s)
Tally patient's "statistical slips" and post to "cost distribution" sheet for allocation to particular rate categories.
Follow-up billing and collection
Maintain receivables ledger, process cash receipts

These three generic "levels" of in-hospital statistical data gathering represent varying degrees of operating complexity. Level 1 provides the most simple procedure to execute within the hospital, while Level 3 represents a relatively complex operating system, somewhat akin procedurally to today's system of itemized charge processing.

It is important to realize that the particular level of statistical gathering required in a hospital *is not dependent upon the specific inclusive rate scheme being employed.* Instead, the level of data gathering is dependent upon the method selected to allocate department costs (if at all) as part of the rate establishment process, and on the degree and type of operating information desired for management purposes *other than patient billing.*

Thus, internal hospital operating costs associated with an inclusive rate patient accounting system are affected *principally* by the level of statistical gathering required to support derivation of the rates. Conversely, operating costs are not particularly sensitive to the specific inclusive rate scheme employed by the hospital, with a few exceptions involving complex rate application ("look-up") routines.

Logically, then, the three generic alternative in-hospital statistical levels provide a basis for evaluating operating cost reduction potential under the inclusive rate concept of charging. By evaluating each alternative, a complete understanding of the relative operational cost advantages and disadvantages of each statistical level can be developed and studied independent of a consideration of the numerous specific inclusive rate schemes which might be employed under any of the alternative levels.

COST REDUCTION POTENTIAL FROM INCLUSIVE RATE CHARGING

Anticipated Changes in Existing Operating Procedures

Before determining cost reduction potential, expected changes in in-hospital operating procedures brought about by the introduction of an inclusive rate charging scheme were identified, including not only areas of the current effort which could be eliminated or reduced, but an exploration of possible new or substitute tasks required to satisfy the information and data gathering requirements under the new rate system.

First, consideration was given to those existing procedures which would be eliminated, reduced (content and/or volume), or significantly simplified (performance skill/time) under any inclusive rate scheme. Anticipated effects are summarized as follows:

Financial Admission

- This activity, involving setting up the patient account and screening credit, would not normally be affected.

In-hospital Control

- Most charge slips would be eliminated. Only those slips related to charges for a relatively few discretionary items (e.g., telephone, T.V., take-home drugs) would remain.

- Most sorting of charge slips and posting of charges to patient ledgers would be eliminated. Only charges for discretionary items would remain.

Initial Billing

- All manipulation and recording of itemized charge data would be eliminated, except as related to discretionary items.

- Calculation of the "room and board" charge would be replaced by a computation of the appropriate inclusive charge for the patient's stay.

- Usual 8-10 day delay in initial billing to allow for processing of late charges would be eliminated.

Follow-up and Collection

- Minor reduction in volume of follow-up bills is expected because of improved collections resulting from prompt initial billing.

- Level of collection activities is expected to be unaffected by the reduced lag in initial billing.

- Telephone queries originating from outside the hospital concerning specific charges for service would be virtually eliminated.

- Small reduction in telephone calls concerning other aspects of a patient's bill is expected with better understanding of the simplified format and composition of bill.

EXHIBIT 13

ANTICIPATED CHANGES IN EXISTING PATIENT ACCOUNTING PROCEDURES UNDER AN INCLUSIVE RATE SYSTEM

FINANCIAL ADMISSION

1. Initiation of Patient Account	No change is expected, except in hospitals when special ledgers or forms are created to collect specific charges (e.g., room and board ledgers).
2. Credit Screening	No Change

IN–HOSPITAL CONTROL

3. Prepare Charge Card	Eliminated
4. Charging Out Requisition	Eliminated
5. Matching Charge With Account	Eliminated
6. Prepare Ledgers for Posting and Refile	Eliminated
7. Posting Charges to Account (Processing charges to accounts under EDP systems)	Eliminated
8. Associated Posting Tasks	Eliminated
9. Calculate Room and Board Charge	Replaced by calculation of inclusive charge.
10. Interim Billing (Underwriter)	All manipulation and recording of itemized charge data is eliminated. Frequency of activity unaffected. Performance time reduced.
11. Interim Billing (Patient)	All manipulation and recording of itemized charge data is eliminated. Frequency of activity unaffected. Performance time reduced.
12. Discharge Statements	All manipulation and recording of itemized charge data is eliminated. Frequency of activity unaffected. Performance time reduced.
13. Discharge Interview	No Change

EXHIBIT 13 (Continued)

INITIAL BILLING

14.	Initial Billing (Underwriter)	All manipulation and recording of itemized charge data is eliminated. Frequency of activity unaffected. Performance time reduced.
15.	Initial Billing (Patient)	All manipulation and recording of itemized charge data is eliminated. Frequency of activity unaffected. Performance time reduced.
16.	Follow-up Billing	5% reduction in volume due to improved collections resulting from prompt initial billing.
17.	Send Legal Letter	No Change
18.	Telephone Expedite	No Change
19.	Refer Accounts to Collection	No Change
20.	Write-Off Accounts to Bad Debts	No Change
21.	Post Payments to Receipts Journal	No Change
22.	Post Payments to Accounts	No Change
23.	Cash Distribution	No Change
24.	Bank Deposit	No Change
25a.	Telephone Queries - Charges	Reduced by 90%, since itemized charges are virtually eliminated.
25b.	Telephone Queries - Other	Reduced by 10% due to better understanding of simplified bill.
26.	Receivable Analysis	No Change
27.	Trial Balance	No Change
28.	Receivable Aging, Aged Trial Balance	No Change

EXHIBIT 13 (Continued)

RELATED FINANCIAL AND STATISTICAL ASPECTS

29.	Income Distribution	Eliminated
30.	Medicare Income Distribution by Department	Eliminated
31.	Departmental Logs and Workload Statistics	Modified to include new statistical requirements to support derivation of specific inclusive charges.

Related Financial and Statistical Aspects

– Income distribution analyses would be eliminated, since the concept of income by departments would no longer be applicable.

– Periodic efforts of reviewing and adjusting individual service charges would be eliminated.

– Certain miscellaneous financial control reports, such as posting lists, posting verifications, and unprocessed (mismatched) charge reports, would be eliminated.

Details of anticipated changes in existing patient accounting procedures are documented in Exhibit 13. Three general types of procedure changes are indicated.

1. *Elimination of a Procedure.* These changes are generally associated with the elimination of itemized charge slips.

2. *Reduction in Performance Time.* Certain activities (e.g., billing) would be necessarily modified under an inclusive rate system. Procedure performance times for these activities were carefully adjusted to recognize such changes.

3. *Reduction in Frequency of Procedure Occurrence.* Volumes of follow-up bills and telephone queries were adjusted to reflect a conservative expectation of frequency reduction resulting from a conversion to inclusive rates.

Anticipated New Operating Procedures

Implementation of statistical Level 1, 2, or 3 would necessitate the incorporation of certain new procedures into the hospital information system. Each alternative level would bring about a uniquely different set of in-house information handling requirements.

Level 1

Weighted procedure (workload) point values would be assigned to each procedure recorded on existing department log sheets or similar service records. Workload would be categorized only as inpatient or outpatient activity.

In many cases, this activity would replace the current task of listing itemized service charges on departmental records. In other cases, it would represent a small increase in clerical workload within the department. All other departmental records and statistical gathering would remain unchanged.

Level 2

Ancillary departments would continue to maintain activity log sheets or similar service records. However, several columns would be added to the sheets representing the various inclusive rate categories employed by the hospital.

When service was rendered by a department and entered onto the log sheet, the weighted procedure (workload) point value would be recorded in the appropriate column. Pertinent patient characteristics (e.g., day of stay) existing at time of service would serve to identify the proper inclusive category/column.

This activity would generally represent a small increase in clerical workload within a service department.

In hospitals utilizing a computer to generate these statistics, copies of the log sheet or service requisition would be submitted to data processing. There, the information would be key punched and tabulated on the computer periodically.

Level 3

Ancillary department staff would record the appropriate weighted procedure point value on a copy of the service requisition. These “statistical slips” would be sent to the business office for further processing. (This task is nearly identical to the present procedure of recording itemized service charges on individual charge slips.)

The business office would file these statistical slips with patient ledgers until such time as appropriate classification information (e.g., discharge diagnosis) could be determined.

Upon discharge, the business office would retrieve the statistical slips from the patient’s ledger, and post associated workload point values to the appropriate inclusive rate category.

In hospitals employing EDP services to tabulate this information, the log sheet or service requisition would be sent to data processing, key punched, and tabulated by the computer as classification information became available.

Clearly, alternative statistical Levels 1, 2, and 3 represent three distinct internal operating systems. Billing and follow-up activities are identical under each alternative. Differences exist only in the techniques employed to generate statistics required for apportioning costs to particular inclusive rate categories.

Cost Reduction Potential

The cost reduction potential associated with each alternative statistical level to establish inclusive rates is presented below. It should be reemphasized that differences in cost reduction potential between the three optional levels can be *solely* attributed to the varying financial and statistical methods required to support the allocation of costs to specific inclusive rate categories. All other major functions (i.e., financial admission, in-hospital control, billing, follow-up and collection) are structured to be performed in an *identical manner* under either Level 1, 2, or 3. A detailed breakdown of cost data for one of the study hospitals under each alternative level is included in Appendix 3, Part E.

The following discussion of cost reduction potential is presented in terms of the anticipated effect on patient accounting operating costs. Consideration of the hospital's ability to achieve their potential cost reduction and realize corresponding reductions in total hospital operating costs is contained in the following section.

Inclusive Rate–Level 1. Potential operating cost reduction associated with statistical Level 1 is summarized in Exhibit 14a, totaling $427,250 for the seven study hospitals. This represents an average annual reduction of approximately 37 percent in the present cost of inpatient accounting services.

Manpower and EDP service account for the great majority (94 percent) of the total cost reduction potential. Standard office equipment and supplies, on the other hand, contribute only 2 percent of the total. Equivalent cost benefits from released space–considered identifiable only when desk groups involving five or more positions could be eliminated from one location within the hospital – were identified only at Massachusetts General Hospital, accounting for the remaining 4 percent of the total.

EXHIBIT 14a

POTENTIAL COST REDUCTION (INCREASE)
IN INPATIENT ACCOUNTING AND RELATED ACTIVITIES UNDER I. R. LEVEL 1

	BUSINESS OFFICE MANPOWER		ANCILLARY POWER						
Study Hospital	# F.T.E.	Cost	# F.T.E.	Cost	EDP Service	Office Equipment	Supplies	Space	Total Reduction
Amesbury	1.1	$ 5,530 97%	(.03)	$ (316)	–	$ 138 2%	$ 33 1%	–	$ 5,385 100%
Doctors'	4.2	26,326 94%	.2	1,057 4%	–	525 2%	126	–	28,034 100%
Somerville	2.6	18,823 90%	.2	1,605 8%	–	325 2%	87	–	20,840 100%
Marlboro	3.9	24,411 86%	.2	1,551 5%	$ 1,659 6%	475 2%	303 1%	–	28,399 100%
New England Deaconess	3.6	24,406 50%	.1	809 2%	22,394 46%	450 1%	676 1%	–	48,735 100%
Quincy City	3.2	21,827 37%	1.0	8,009 14%	27,966 47%	400 1%	643 1%	–	58,845 100%
Massachusetts General	22.5	136,260 58%	.7	7,123 3%	71,647 30%	2,812 1%	2,295 1%	$16,875 7%	237,012 100%
TOTAL REDUCTION	41.1	$257,583 60%	2.4	$19,838 5%	$123,666 29%	$5,125 1%	$4,163 1%	$16,875 4%	$427,250 100%

Note: "F.T.E." indicates number of full-time equivalent employees

EXHIBIT 14b

POTENTIAL COST REDUCTION (INCREASE) IN MAJOR INPATIENT ACCOUNTING FUNCTIONS FOR SEVEN STUDY HOSPITALS UNDER I. R. LEVEL 1

	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER			Total
Major Function	**F.T.E.***	**Cost**	**F.T.E.***	**Cost**	**E.D.P. Service**	**Reduction (% of Total)**
Financial Admission	.2	$ 1,268	–	–	$ 1,134	$ 2,402 1%
In-Hospital Control	25.7	157,500	4.0	$29,341	96,612	283,453 71%
Billing	9.2	59,990	–	–	10,598	70,588 18%
Follow-up and Collection	2.9	19,012	–	–	4,980	23,992 6%
Related Financial and Statistical Aspects	3.2	19,813	(1.6)	(9,503)	10,342	20,652 4%
TOTAL	41.2	$257,583 64%	2.4	$19,838 5%	$123,666 31%	$401,087 100%

*F.T.E. = Full-Time Equivalent Employees

Exhibit 14b presents a breakdown of cost reduction potential for manpower and EDP service only, by each major patient accounting function. In-hospital control accounts for the great majority of the manpower-EDP reduction potential (71 percent), primarily because of the effect of eliminating itemized charge slips from the processing system. Billing cost reductions, identified as 18 percent of the total manpower-EDP potential, can be principally attributed to the reduced time required to process a bill under an inclusive charging system.

EDP service cost reductions are particularly significant under a Level 1 system. Again, this can be principally attributed to the elimination of computer processing and manipulation of itemized charge data. The computer would presumably continue to maintain and generate patient bills, receivables analyses and other financial control reports existing under the present system. Many of these activities, however, would be significantly simplified under an inclusive charging system.

Inclusive Rate—Level 2. Cost reductions identified under statistical Level 2 are summarized in Exhibit 15a. The total potential of $277,400 represents an annual inpatient accounting cost reduction of about 24 percent. Similar to Level 1, the major reduction potential lies in the areas of business office manpower and EDP services.

Exhibit 15b identifies a large increase ($119,600) in costs related to financial and statistical aspects of the patient accounting process, because of the increased statistical data gathering required to allow the computation of specific inclusive rates under a Level 2 support system. The increase in the cost of business office personnel relates to additional key-punching activity required in those hospitals utilizing in-house computer capability to perform the statistical analyses.

For those hospitals having in-house computer facilities, it was assumed that the computer would be used to process and generate the statistical information required under a Level 2 system. This assumption is consistent with the current mode of operation in these hospitals, and was strongly supported by the study hospitals as the method of operation which they would expect to exist under a Level 2 system.

Inclusive Rate—Level 3. Potential operating cost reductions under the statistical Level 3 system, summarized in Exhibit 16a, represent a net decrease of $176,600 (15 percent) in annual inpatient accounting operating cost. Once again, business office manpower and EDP services account for the bulk of the cost reduction potential. Related financial and statistical aspects (Exhibit 16b)

EXHIBIT 15a

POTENTIAL COST REDUCTION (INCREASE) IN INPATIENT ACCOUNTING AND RELATED ACTIVITIES UNDER I. R. LEVEL 2

Study Hospital	BUSINESS OFFICE MANPOWER # F.T.E.	Cost	ANCILLARY POWER # F.T.E.	Cost	EDP Service	Office Equipment	Supplies	Space	Total Reduction
Amesbury	1.1	$ 5,530 97%	(.09)	$ (749)	–	$ 138 2%	$ 33 1%	–	$ 4,952 100%
Doctors'	4.2	26,326 97%	(.05)	(597)	–	525 2%	126 1%	–	26,380 100%
Somerville	2.6	18,823 98%	(.01)	(193)	–	325 2%	78	–	19,033 100%
Marlboro	3.9	24,411 92%	(.2)	(536)	$ 1,659 6%	475 2%	114	–	26,123 100%
New England Deaconess	2.8	19,982 67%	.1	970 3%	8,406 29%	350 1%	84	–	29,792 100%
Quincy City	3.2	21,827 42%	.3	1,793 3%	27,966 54%	400 1%	96	–	52,082 100%
Massachusetts General	15.5	95,610 80%	.3	1,674 1%	7,899 7%	1,913 2%	459	$11,492 10%	119,047 100%
TOTAL REDUCTION	33.3	$212,509 77%	.4	$2,362 1%	$45,930 17%	$ 4,126 1%	$990	$11,492 4%	$277,409 100%

Note: "F.T.E." indicates number of full-time equivalent employees

EXHIBIT 15b

POTENTIAL COST REDUCTION (INCREASE) IN MAJOR INPATIENT ACCOUNTING FUNCTIONS FOR SEVEN STUDY HOSPITALS UNDER I. R. LEVEL 2

	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER			Total
Major Function	F.T.E.*	Cost	F.T.E.*	Cost	E.D.P. Service	Reduction (% of Total)
Financial Admission	.2	$ 1,268	–	–	$ 1,134	$ 2,402 1%
In-Hospital Control	25.7	157,500	4.0	$29,341	96,612	283,453 75%
Billing	9.2	59,990	–	–	10,598	70,588 18%
Follow-up and Collection	2.9	19,012	–	–	4,980	23,992 6%
Related Financial and Statistical Aspects	(4.7)	(25,261)	(3.4)	(26,979)	(67,394)	(119,634)
TOTAL	33.3	$212,509 81%	.6	$2,362 1%	$45,930 18%	$260,801 100%

*F.T.E. = Full-Time Equivalent Employees

EXHIBIT 16a

POTENTIAL COST REDUCTION (INCREASE) IN INPATIENT ACCOUNTING AND RELATED ACTIVITIES UNDER I. R. LEVEL 3

	BUSINESS OFFICE MANPOWER		ANCILLARY POWER						
Study Hospital	# F.T.E.	Cost	# F.T.E.	Cost	EDP Service	Office Equipment	Supplies	Space	Total Reduction
Amesbury	.7	$ 3,475 97%	(.03)	$ (316)	—	$ 88 2%	$ 21 1%	—	$ 3,268 100%
Doctors'	2.9	18,902 91%	.2	1,466 7%	—	363 2%	87	—	20,818 100%
Somerville	1.8	13,304 94%	.1	634 5%	—	225 1%	54	—	14,217 100%
Marlboro	1.1	6,474 88%	—	—	$ 728 10%	125 2%	30	—	7,357 100%
New England Deaconess	2.1	15,557 67%	.1	970 4%	6,510 28%	263 1%	63	—	23,363 100%
Quincy City	2.1	13,787 80%	.2	319 2%	2,810 16%	263 2%	63	—	17,242 100%
Massachusetts General	11.2	70,707 78%	.3	1,674 2%	7,899 9%	1,400 2%	336	$8,426 9%	90,442 100%
TOTAL REDUCTION	21.9	$142,206 80%	.9	$4,747 3%	$17,947 10%	$2,727 2%	$654	$8,426 5%	$176,707 100%

Note: "F.T.E." indicates number of full-time equivalent employees

EXHIBIT 16b

POTENTIAL COST REDUCTION (INCREASE) IN MAJOR INPATIENT ACCOUNTING FUNCTIONS FOR SEVEN STUDY HOSPITALS UNDER I. R. LEVEL 3

	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER			Total
Major Function	F.T.E.*	Cost	F.T.E.*	Cost	E.D.P. Service	Reduction (% of Total)
Financial Admission	.2	$ 1,268	–	–	$ 1,134	$ 2,402 1%
In-Hospital Control	25.7	157,500	4.0	$29,341	96,612	283,453 75%
Billing	9.2	59,990	–	–	10,598	70,588 18%
Follow-up and Collection	2.9	19,012	–	–	4,980	23,992 6%
Related Financial and Statistical Aspects	(16.1)	(95,564)	(3.4)	(24,594)	(95,377)	(215,535)
TOTAL	21.9	$142,206 86%	.6	$ 4,747 3%	$17,947 11%	$164,900 100%

*F.T.E. = Full-Time Equivalent Employees

realize a major increase in patient accounting activity and expense. This is due to the central categorizing of patient service statistics required to support the derivation of specific inclusive rates under a Level 3 support system. Where already available, it was assumed that in-house computers would be used to perform this activity, as well as other billing and control functions. Reasons are identical to those discussed above for a Level 2 system.

* * *

To summarize the preceding cost data, Exhibit 17 presents a comparison of total manpower and EDP service costs required under each alternative inpatient accounting system. A similar comparison, Exhibit 18, summarizes the number of personnel and separate EDP costs required under each system to carry out the inpatient accounting process.

Reduction in Level of Receivables

The processing of initial bills is generally postponed approximately ten days beyond date of discharge to allow for posting of delayed itemized service charges to the patient's account. In the seven study hospitals, bills were typically mailed to the responsible parties fifteen days after discharge.

Since itemized patient charges would cease to exist under an inclusive rate system, the initial ten-day delay will no longer be necessary or appropriate. The simplified initial bill could readily be prepared and mailed within 3-5 days after discharge.

The ten day reduction (minimum) in billing lag for the study hospitals should have a corresponding effect on the financial level of accounts receivable, based upon the premise that bills received by the payer ten days sooner will, *on the average,* be paid ten days earlier. Thus, a cost reduction equivalent to the interest on the working capital required to finance ten days worth of receivables, less contractual adjustments, bad debts and payer advances, represents an additional potential benefit to the study hospitals.

Exhibit 19 shows that the interest costs associated with financing ten days of receivables is approximately $135,000 for the seven study hospitals, at prime rates. This figure includes both inpatient and outpatient receivables, since separate data were not available from some of the hospitals. However, where the data existed, outpatient receivables were a very small fraction of the total, so that the potential savings on interest costs is only slightly inflated. In *most* of the study institutions, this would conservatively represent an *actual* reduction in operating cost, currently

EXHIBIT 17

COMPARISON OF INPATIENT ACCOUNTING MANPOWER & EDP SERVICE COSTS AND % REDUCTION UNDER EACH ALTERNATIVE SYSTEM

	PRESENT	LEVEL 1		LEVEL 2		LEVEL 3	
HOSPITALS	Operating Cost	Operating Cost	% Reduction	Operating Cost	% Reduction	Operating Cost	% Reduction
Amesbury	$ 13,851	$ 8,637	37.6	$ 9,070	34.5	$ 10,692	22.8
Doctors'	59,940	32,557	45.7	34,211	42.9	39,572	34.0
Somerville	45,310	24,882	45.1	26,680	41.1	31,372	30.8
Marlboro	73,923	46,302	37.4	48,389	34.5	66,721	9.7
New England Deaconess	141,944	94,335	33.5	112,586	20.7	118,907	16.2
Quincy City	193,115	135,313	29.9	141,529	26.3	176,199	8.8
Massachusetts General	569,725	354,695	37.7	464,542	18.5	489,445	14.1
TOTAL	$1,097,808	$696,721	36.5	$837,007	23.8	$932,908	15.0

EXHIBIT 18

COMPARISON OF NUMBER OF INPATIENT ACCOUNTING PERSONNEL AND EDP SERVICE COST UNDER EACH ALTERNATIVE SYSTEM

	PRESENT			LEVEL 1			LEVEL 2			LEVEL 3		
	# F.T.E. *		EDP	# F.T.E. *		EDP	# F.T.E. *		EDP	# F.T.E. *		EDP
HOSPITAL	B.O.	Ancil.	Cost	B.O.	Ancil.	Cost	B.O.	Ancil.	Cost	B.O.	Ancil.	Cost
Amesbury	2.3	.3	–	1.2	.3	–	1.2	.4	–	1.6	.3	–
Doctors'	8.4	.8	–	4.2	.6	–	4.2	.9	–	5.5	.6	–
Somerville	5.5	.8	–	2.9	.6	–	2.9	.8	–	3.7	.7	–
Marlboro	9.4	1.6	$ 2,969	5.5	1.4	$ 1,310	5.5	1.8	$ 1,310	8.3	1.6	$ 2,241
New England Deaconess	11.6	2.7	37,214	8.0	2.6	14,820	8.8	2.6	28,808	9.5	2.6	30,704
Quincy City	13.5	2.6	76,786	10.3	1.6	48,820	10.3	2.3	48,820	11.4	2.4	73,976
Massachusetts General	64.7	7.6	126,923	42.2	6.9	55,276	49.2	7.3	119,024	53.5	7.3	119,024
TOTAL	115.0	16.4	$243,892	74.3	14.0	$120,226	82.1	16.1	$197,962	93.5	15.5	$225,945

* "F.T.E." refers to number of equivalent full-time employees

EXHIBIT 19

ESTIMATED INTEREST COST ASSOCIATED WITH FINANCING TEN DAYS OF RECEIVABLES

Study Hospital	Ten Days Receivables (less contractual losses, bad debts, and payer advances)	Interest Cost at 8% per Annum
Amesbury	$ 19,911	$ 1,593
Doctors'	46,322	3,706
Somerville	95,038	7,603
Marlboro	73,945	5,916
New England Deaconess	246,149	19,692
Quincy City	163,023	13,042
Massachusetts General	1,046,790	83,743
TOTAL	$1,691,178	$135,295

incurred through the frequent borrowing of funds (sometimes at interest rates of 9-10 percent) to finance excessive levels of receivables.

SUMMARY AND DISCUSSION OF FINDINGS

Assumptions of Analysis

When considering the magnitude of the patient accounting cost reduction potential identified, it is important to understand the nature of the analysis performed in terms of the introduction of assumptions of either a "conservative" or "optimistic" nature. Following are key assumptions made throughout the study which bear upon the degree of accuracy which should be identified with the potential operating cost reductions previously described for the patient accounting function.

- That the rate of productivity of patient accounting staff would remain unchanged. (The rate of productivity of business office staff in the seven study hospitals averaged 48 percent, ranging from 37 percent to 60 percent.)

- That the *total amount* of supervision presently provided would not be reduced.

- That rate of employee turnover would remain unchanged.

- That training costs associated with a new employee would remain unchanged.

- That a multiplicity of third-party payers, claims forms, and information requirements of payers would continue to exist.

- That hospital uniqueness in management information requirements, statistics, and controls would be maintained. All existing department logs and records would remain, except as affected by the elimination of itemized charges.

- That discretionary items (e.g., telephone, T.V., take-home drugs) would be itemized on the patient ledger and bill.

- That the level of receivables would be reduced, since earlier presentation of the initial bill would result in earlier payment of the patient's bill.

- That earlier payments (above) would bring about a corresponding small reduction (5 percent) in follow-up billing activity.

- That credit and collection activities would be unaffected.

- That the benefits resulting from reduced space requirements would be realized only when five or more positions could be eliminated from one office location.

- That no additional *on-going* programs (e.g., public relations) would be necessitated by the introduction of inclusive rates.

Certainly, the nature of a number of these assumptions could be debated. For example, it could be argued that fewer supervisors would be required in certain instances to supervise a less complex operating system utilizing substantially fewer people. Or one could reason that collection and bad debt experience would be improved by faster presentation of less detailed initial bills. However, the majority of the assumptions are intended to represent "conservative" judgements of expected operating conditions under an inclusive rate system.

Three additional points should be reemphasized. First, the evaluation was conducted with an orientation toward the manner in which hospitals could be *expected* to operate under an inclusive rate system. Miscellaneous and discretionary activities, operating methods, and similar uniqueness of each institution were maintained whenever possible.

Second, operating inefficiencies existing under the itemized charging system were noted throughout the study. These were generally attributed to three factors: the overall complexity of the operating system, the sheer volume of paper handling and flow, and the specialization required to perform certain complex tasks identified with itemized claim reporting. Conversion to an inclusive rate system might naturally generate operating efficiencies resulting from the elimination of the above factors.

The magnitude of cost reduction potential resulting from improved operating efficiencies could be substantial. For instance, if the rate of productivity of inpatient accounting staff increased by 10 percent (from 48 percent to 58 percent) under a

Level 1 inclusive rate system, additional benefits of approximately $90,000 would be realized by the seven study hospitals. However, such potential improvements could not be readily and reliably identified and were not included in the cost reduction estimates.

Finally, cost reductions resulting from operating changes or improvements which could potentially be achieved *independent* of a conversion to inclusive charging were excluded from this analysis. Examples include efficiencies resulting from changes in office layout, filing techniques, forms design, staff training and management skill level. Only those reductions directly attributable to implementation of an inclusive rate system were identified.

It can perhaps be concluded that the potential cost reductions presented in this report are somewhat "conservative" in nature, and thus provide a realistic estimate of expected cost benefits.

Summary of Findings

It is concluded that a substantial reduction in patient accounting costs can be achieved through the implementation of inclusive charging. Exhibit 20 presents a summary of cost reduction information and statistics relevant to the seven study hospitals. For clarity, information has been organized as "inpatient reductions" and "interest on receivables".

The existing itemized charging system is clearly the most expensive option to operate and maintain, while statistical Level 1 represents the largest potential reduction inpatient accounting services resulting from a conversion to inclusive charging.

An illustration of the general trend of inpatient accounting cost reduction potential extrapolated from study hospital data is presented graphically in Exhibit 21 and clearly indicates that benefits to be derived from a conversion to each of the three alternative generic systems vary significantly. Additionally, for each alternative, potential benefits tend to increase as hospital size increases.

The three alternative statistical levels are expected to require identical systems and operating costs for all functions *except* statistics gathering activities. The method of accumulating statistical information required to allocate hospital costs to specific inclusive rate categories is the *only* operational difference between Level 1, 2, and 3.

EXHIBIT 20

SUMMARY OF COST REDUCTION POTENTIAL FOR SEVEN STUDY HOSPITALS

INPATIENT REDUCTIONS

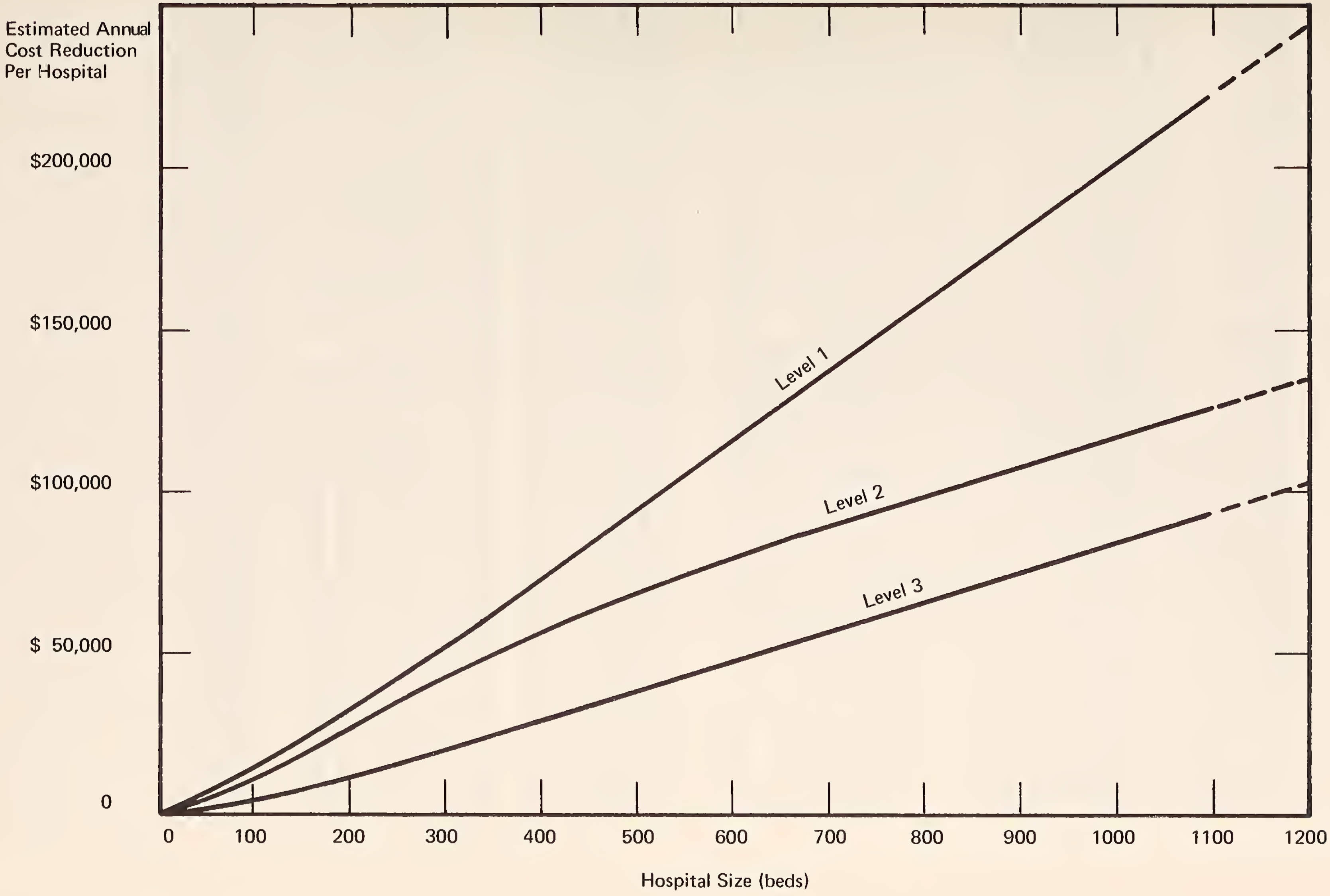
	Level 1	Level 2	Level 3
Total annual potential reduction	$427,250	$277,409	$176,707
% of present inpatient accounting operating costs	37%	24%	15%
% of total hospital operating costs	.50%	.37%	.21%
Cost reduction per patient day	$ .57	$ .39	$ .23
Cost reduction per admission	$ 6.15	$ 4.00	$ 2.55
Annual cost reduction per bed	$186.98	$121.40	$77.33

INTEREST ON RECEIVABLES

	Levels 1, 2, & 3
Total annual potential reduction	$135,295
% of total hospital operating costs	.16%

EXHIBIT 21

GENERAL TREND OF POTENTIAL INPATIENT ACCOUNTING COST REDUCTION FOR I. R. LEVELS 1, 2, & 3



Also, as discussed, the selection of a particular inclusive rate scheme (e.g., variable per diem) is expected to have little effect on hospital operating cost. The statistical level selected to support the rate scheme will dictate the appropriate operating system and associated costs.

However, each unique inclusive rate scheme/statistical level combination is expected to have varying impact upon the *distribution* of hospital costs to particular payer groups (e.g., Blue Cross, commercials, self-pay). Thus, in considering the many optional inclusive rate schemes, one must consider the acceptability of each scheme relative to cost distribution to payers *and* relative to operating cost reduction potential available through implementation of the scheme under each alternative statistical level.

It should be emphasized that a Level 2 or 3 system, calling for in-hospital application of more detailed cost accounting practices, would *not* necessarily produce a scheme whose effect on cost distribution to payers would be more acceptable to the industry than that produced under Level 1. To the contrary, it is quite possible that a scheme supported by statistical Level 1 could produce an allocation of costs acceptable to all groups.

ACHIEVABILITY: TWO ILLUSTRATIVE COMPARISONS

During the study, several site visits were conducted for the purpose of examining existing in-hospital inclusive rate systems and obtaining a gross measure of resources committed to the patient accounting function. To further demonstrate the achievability of potential cost benefits, the following brief comparisons of operations in two hospitals utilizing inclusive charging methods to similar hospitals which presently employ itemized charging methods throughout are presented.

Massachusetts General Hospital vs. University Hospitals of Cleveland

University Hospitals of Cleveland have been employing the use of inclusive charging for many years. The hospitals make up a large medical complex totaling 1,044 beds and are the major teaching hospitals of the University. A common patient accounting system exists for all of the hospitals, being performed centrally by business office personnel.

The University Hospitals of Cleveland can be conveniently compared to the Massachusetts General Hospital. Service populations, scope of services, bed sizes, annual admissions, data processing capabilities, and most other similar factors are approximately equivalent between the two institutions. An important exception is the larger number of outpatient clinic visits realized by Massachusetts General Hospital.

Comparing manpower allocated to patient accounting activities (Exhibit 22), differences in total number of personnel indicate about a 3:1 ratio between the two institutions. In addition, initial billing lag (time between discharge and mailing of bill) of 15 days at Massachusetts General is 3 times larger than that incurred by the University Hospitals. The substantial operating differences can be generally attributed to three major factors:

1. An inclusive rate system, through the elimination of itemized charges, substantially reduces patient accounting manpower requirements and billing lag time.

2. Outpatient clinic volume is substantially greater at MGH.

3. University Hospitals of Cleveland, while employing a simplified inclusive charging system for outpatient services, seldom bills a self-pay patient. Instead, the hospitals rely heavily on cash collections at the time of service, thereby reducing outpatient billing volume.

Of these factors, use of inclusive charging by University Hospitals of Cleveland appears to be the major contributing factor to the differences in manpower and billing lag noted above.

Children's Hospital Medical Center, Boston vs. The Hospital for Sick Children, Toronto

Toronto's Hospital for Sick Children has employed since 1959 the use of inclusive charging, under a national health insurance system. Children's Hospital Medical Center, on the other hand, utilizes itemized charging methods for both inpatient and outpatient services.

The two institutions are quite similar in many respects, with the exception of bed size and annual number of admissions. In this regard, the Hospital for Sick Children is approximately twice the size of its Boston counterpart.

A comparison of patient accounting activities (Exhibit 23) again demonstrates a vast difference in manpower and an 8½ day difference in initial billing lag time. Key factors effecting these differences seem to be two-fold:

EXHIBIT 22

MASSACHUSETTS GENERAL HOSPITAL
VS.
UNIVERSITY HOSPITALS OF CLEVELAND

Facts	University Hospitals of Cleveland	Massachusetts General Hospital
Rate Structure	Inclusive	Itemized Charging
Bed Size	1,044	1,064
Admissions	28,900	26,700
EW/OPD Clinic Visits	266,000	358,000
Patient Accounting Data Processing	IBM 360–40	IBM 360–40
Inpatient Billing Lag Time	5 Days	15 Days
Personnel: Patient Accounting and Related*	44½	120

*Includes management personnel

EXHIBIT 23

CHILDRENS' HOSPITAL MEDICAL CENTER, BOSTON
VS.
THE HOSPITAL FOR SICK CHILDREN, TORONTO

Facts	The Hospital For Sick Children	Childrens' Hospital Medical Center
Rate Structure	Inclusive, National Health Insurance	Itemized Charging
Bed Size	796	343
Admissions	28,000	12,000
EW/OPD Clinic Visits	153,000	160,000
Patient Accounting Data Processing	Primarily Manual	Primarily Manual
Inpatient Billing Lag Time	1½ Days	10 Days
Personnel: Patient Accounting and Related*	19	102

*Includes management personnel

1. Inclusive charging significantly reduces billing lag time and personnel needs associated with the patient accounting functions.

2. Under the Canadian national health insurance system, The Hospital for Sick Children deals principally with one major payer. Thus, certain economies resulting from the standardization of claims forms and information requirements have been realized.

ADDITIONAL POTENTIAL BENEFITS

Opportunities for achieving additional improvements and/or operating efficiencies in addition to those previously identified in this report are numerous. A few important areas are summarized below:

- Inclusive rate statistical Level 1 is an extremely simple system when compared to today's itemized charging methods. Such a system would naturally be more easily understood by employees and managers, and could lead to improved controls, work methods, and operating efficiencies difficult to achieve under a more complex system.

  As previously discussed, potential benefits of this type could not be reliably projected and were not included in the preceding cost reduction quotations. Nonetheless, the potential for such improvements would be enhanced by the introduction of inclusive charging methods, and should be considered an additional potential benefit resulting from conversion to inclusive rates.

- The preceding description of the in-hospital patient accounting system required to support an inclusive charging structure has assumed that discretionary patient itemized charges for such items as telephone and television usage, take-home drugs, haircuts, and newspapers would continue to exist. These charges account for approximately 1 percent to 2 percent of all items presently processed, and are not expected to significantly affect the simplified nature of the inclusive rate operating system.

  Elimination of charges for discretionary items would present an additional opportunity for operating cost reduction. Conversely, the incorporation of additional itemized charge categories (e.g., operating room charges) as "exceptions" into an "inclusive rate" system will tend to *disproportionately* add to the complexity of the supporting operating system. Relatively few such "exceptions" would rapidly erode the potential cost reductions achievable under a truly inclusive method of charging.

- Each hospital presently employs the use of numerous different third-party claims forms. This lack of standardization contributes significantly to the complexity of the billing function, and necessitates a large amount of specialization and special handling.

  Many of the differences between various claims forms can be attributed to the differing requirements (amount, details and format) of third-parties for itemized charge data. Use of inclusive rates eliminates detailed charge information, paving the way to development and implementation of a single claim form.

  As noted, the preceding cost reduction quotations assume the future use of multiple claims forms. However, the adoption of a single common claims form by the entire health insurance industry could have a significant further impact on the cost of performing the hospital billing function.

- Under the alternative operating systems described in this report, all charge-based statistics currently generated by or for ancillary departments would be replaced by cost-based statistics required to support the establishment of specific inclusive rates. These cost-based statistics would provide hospital management personnel with the objective information required to appropriately monitor and evaluate on-going departmental performance, productivity, and efficiency. The common tendency to employ charge-based information for purposes of management control would be automatically avoided.

Chapter Three

THE FEASIBILITY OF INCLUSIVE RATES

Although the cost saving potential of inclusive rates is relatively small as a percentage of hospitals' total operating budgets, the cost improvement is a substantial proportion of *administrative* outlays. In the context of the immediacy of current concern over accelerating rates of increase in health care costs, this fact would recommend wider-spread, if not national, utilization of the inclusive charging concept, other things being equal.

At the same time, with the smaller impact on overall hospital costs, it is critical to examine the overall effects of a change to inclusive charging vis-a-vis the system as a whole, specifically to ascertain (1) why in the face of implicit cost improvement such a small percentage of hospitals are using or have tried an inclusive system, and (2) what offsetting costs—qualitative as well as quantitative—the implied structural aspects of implementation incur, if any.

The Boston Consulting Group undertook a broad survey of the health care delivery system to deal with these questions. Exhibit 24 lists the various organizations contacted; in many instances a number of individuals within each was interviewed, and follow-up sessions were conducted with selected parties. Reactions were elicited to inclusive rate charging, both as a concept and as an operational system.

The variety of response reflects to some extent the fact that the inclusive rate concept has not been perceived as a critical issue. Despite the existence of inclusive rate hospitals and a modicum of published discussion, the majority of people in the health care delivery system are relatively uninformed on the implications of inclusive charging.

The diffusity of the responses, then, was predictable: No issue was raised consistently by the various parties involved. At the same time the reactions, individually and as a whole, were highly instructive in extending and refining *a priori* discussions of feasibility, both in the literature and in preliminary stages of this study; the responses are also indicative of the sorts of reactions to be anticipated in any plan for broad conversion to inclusive rates—reactions somewhat independent of more objective resolution of fundamental issues of feasibility.

EXHIBIT 24

PRINCIPAL PARTIES CONTACTED

I. Purchasers of Hospital Services

1. Blue Cross/Blue Shield
    - Blue Cross Association
    - Associated Hospital Service (N.Y.C.)
    - Massachusetts Blue Cross
    - Blue Cross of Western Pennsylvania
    - Blue Cross of Portland, Oregon
    - National Association of Blue Shield Plans

2. Commercial Insurance Carriers
    - Health Insurance Council
    - Aetna Life & Casualty Co.
    - Travelers Insurance Co.
    - John Hancock Insurance Co.
    - International Claims Association
    - Hewitt Associates (Brokers)

3. Prepaid Group Plans
    - Group Health Association
    - Group Health Cooperative (Puget Sound)
    - Kaiser Permanente

4. Employers
    - National Association of Manufacturers
    - Eastman-Kodak Co.
    - United States Steel Corp.
    - Olin Corp.

5. Unions
    - AFL-CIO Social Security Division
    - United Steel Workers of America

6. Medicare
    - Bureau of Health Insurance — SSA

EXHIBIT 24 (Continued)

7. Medicaid
    - Social & Rehabilitation Service — HEW
    - American Public Welfare Association
    - Massachusetts Welfare Department

II. Providers of Hospital Services

1. Hospital Administrators
    - Individual hospital administrators
    - American Hospital Association
    - American College of Hospital Administrators
    - Hospital Financial Management Association

2. Hospital Based Specialists
    - American College of Radiology
    - College of American Pathologists
    - American College of Anesthesiologists

3. Private Physicians
    - American Medical Association

III. Regulatory Agencies

Joint Commission on Accreditation
Massachusetts Rate Setting Commission
National Association of Insurance Commissioners
New York State Insurance Commissioners
Connecticut Insurance Department
New York State Health Department

IV. Other

Patients Aid Society

The following is an analysis of the structural feasibility of national inclusive rate systems, based as a starting point on this industry response to the idea, and taking into particular account the effect on the structural entities within the delivery system as a whole.

THE ECONOMIC EFFECTS OF INCLUSIVE RATES

The flow of funds within the health delivery system may be viewed within a single economic framework. There are, however, two categories of economic concern: the provider strives to optimize his revenues and the payer wishes to minimize his costs.

From the Providers' Perspective

Providers of hospital services view patient charging in a very straightforward way–it is their sole means of offsetting the costs of providing those services. A change to inclusive rates then raises two quite clear issues:

- Inclusive rate charges should cover the full costs of the hospital at a given time.
- Inclusive rates should be capable of extending that coverage to increased costs over time.

On the first point, it is readily accepted that an inclusive rate, by definition and design, "includes" either (1) all costs of the hospital averaged over the entire patient population, where a single rate for the institution is employed, or (2) the full costs of each separate service category, where a series of rates are employed for discrete categories of care. In addition, since there are no charge slips that may become lost, and since services cannot be rendered free of charge by hospital personnel, revenue realization, as well as cost coverage, is in all probability actually enhanced.

Itemization offers a certain flexibility that administrators perceive as attractive in repricing to cover increasing costs, and to some extent inclusive rates dilute this capability–an increase in the rate level to reflect higher costs is more visible, and the visibility in turn encourages comparisons of rates from hospital to hospital. At the same time, this is a matter of visibility alone, and not of flexibility.

Both in terms of repricing and rate setting in general, an inclusive system is no less *flexible* and significantly simpler vis-a-vis cost coverage than is the *a la carte* mechanism. Rate setting is several orders of magnitude less complex under inclusive charging: The administrator need only project total operating costs over a total anticipated number of patient days, rather than having to estimate actual costs, probable utilization, and appropriate charges for hundreds or thousands of individual service items.

Repricing, while more visible, is actually made less traumatic. First, the direct relatedness to cost and straightforwardness of rate setting at the outset expands the time period before rate adjustment is necessary. This clearly spreads the impact of visibility out to a more manageable level. Second, a rate change becomes by definition an easily defensible reflection of cost inflation. It is no longer, as is typically the case with *a la carte* systems, a matter of manipulating specific item charges—independent of item costs—in order to adjust the balance between overall costs and overall revenues. In addition, the administrative and revenue realization difficulties inherent in cost payer reimbursement, when item charge rates and costs are unrelated, are eliminated.

As an indication of the feasibility of inclusive rates in these areas, the experience of hospitals using inclusive rates has been encouraging with respect to economic considerations. There has been little or no adverse public reaction to rate levels or necessary adjustments. And hospital utilization has not suffered. As a result, administrators have not reported any loss in overall pricing flexibility. In general, the capability of inclusive rates to assist patients in projecting total hospital costs has outweighed negative problems in the area of pricing visibility.

From the Perspective of the Payer

The payer has quite appropriately a single economic concern relative to a change in the charging system: will it increase the amount he must pay for health care services? or conversely, will it decrease those costs? A corrolate issue is whether inclusive rates will affect materially whatever present ability he has to control and select among those costs.

Operationally, this concern is focussed on three issues, the effect on hospitals' cost levels, the question of utilization levels, and the degree of selectivity vs. inclusiveness within the new system.

Hospitals' Cost Structures. As discussed at some length in the previous chapter, inclusive charging has as its primary effect on hospitals' cost levels a potential for reduction of operating costs. But prior to putting this in the context of the concept's overall feasibility, a critical point must be made—a point which our field interviews show is typically confused: The conversion from itemized to inclusive rates *has no effect on the aggregate level of hospital charges* if the inclusive rate amounts are properly set. The inclusive rate schedule is simply a restatement of that aggregate; it represents *no* change in the amount charged to the *average* patient under whatever charging method preceded it.

In this context it becomes clear that the sole effect of inclusive rates on the structure of costs within the hospital is a function of the realization of the administrative and receivables cost reduction that the potential allows. Insofar as these costs of running the hospital could be contained or reduced, such savings could be passed along to the payers, and presumably the public in general either as payers or through reduced health insurance costs. In this sense, inclusive rates would assumedly be of interest to all payer groups. Our field work confirmed this, as might be expected, and particularly so among employers with health benefit plans, union groups (seeing in general lower employer contribution requirements to health coverage plans as funds appropriately available for adequate direct wage increases), and government health plan programs.

But as this analysis presupposed, all payers reflect an attitude that, in the absence of other inducements, the cost savings potential would have to be "substantial" to gain strong support, in the face of less quantitative issues discussed below and in succeeding sections.

The Economics of Utilization. The effect of inclusive charging on utilization levels is perceived as a central issue, and is examined in several contexts in this study. From the point of view of the economics of the system, inclusive rates cannot be seen as having impact on the cost consequences of utilization significantly different from that of itemized charging:

- Under itemized systems, the charge for a service tends to be independent of its cost—largely because of the fixed stand-by cost elements involved; itemized charges, then, at the outset have little or no structural relevance to utilization.

- Utilization itself has very little cost impact short term, because the cost of ancillary services is largely fixed. Similarly, marked increases in utilization are constrained by capacity.

- As an economic factor itemized charging would appear to provide no more disincentive to use a service than an inclusive method, because most people are presently insured and therefore effectively divorced from having to "pay" for the full service, anyway.

There is a marked lack of evidence, and some indication to the contrary (see below), that inclusive rates do in fact cause an increase in ancillary utilization levels even long term. Despite this, most third party payers, and charge payers in particular, express specific concern over the lack of an itemized bill as a device to control utilization. Alternate control and monitoring media in general are discussed immediately following. It is appropriate here to point out, however, that overall review of and ultimate influence over utilization levels is objectively independent of the charge system used, that present review of itemized charges is widely acknowledged to be ineffective in focussing on discrete utilization episodes, and that inclusive rates may actually enhance utilization control by diverting attention to aggregate levels of usage and, as the discussion of recommended utilization review in Chapter Five points out, *chronic* sources of overutilization within the hospital.

Third Party Control. Under the present charging system, itemized billing is perceived as a means of monitoring

- services rendered to a patient

- appropriateness of reimbursement by third parties, given contract provisions (coverage).

In this context, third party payers especially raise the issue of means under inclusive rates to monitor whether

- a patient is admitted to the hospital unnecessarily,

- a patient is staying in the hospital too long,

- a patient incurs service costs not "medically indicated",

and critically among charge paying carriers whether the reimbursement for this package is properly allocated between covered and noncovered items.

Under inclusive rates, the third party media for monitoring admission and length of stay remains unchanged—hospitals provide discharge diagnoses on claims forms and generate a detailed medical record independent of the charging method. The treatment history within the medical record, while less readily available than *a la carte* bills, also documents itemized ancillaries, for whatever use might be made of them by third party audits.

The appropriateness of medical services rendered—from a cost standpoint—is irrelevant with inclusive charging, since the individual patient is not paying for them specifically. In postulating a population-wide (national, regional, etc.) conversion to inclusive rates, the relevant control device for payers becomes the level of the rates themselves, relative to rates of other comparable institutions.

The inclusive rate, of course, "includes" the aggregate cost of all services provided by the hospital. Given the diversity of contractual coverage by third party payers, it is contingent on the inclusive system to make provision for allocating charges congruently with an individual patient's contractual agreements with his insurer. In the absence of such provisions, the feasibility of the inclusive rate concept would be severely limited by third party payers' resistance. Such a requirement, however, can be met within an effective inclusive rate system:

- "Routine" and "ancillary" portions of the rate can be designated (and since they must be handled separately in the calculation of the rate, can reflect actual ratios of incurrence) and applied to traditional coverage differentiation formulas.

- Certain universally noninsured items can be, and in practice have been, excluded from the rate and charged separately with little or no adverse effect on processing cost savings. Given this and the feature above, many third party payers have found that they can accept the inclusive rate per se as a basis for reimbursement.

- For those carriers who will not accept the inclusive rate, it is a relatively simple matter to negotiate a standard reallocation to the patient's personal bill of a certain fixed percentage of the ancillary portion of the rate, calculated on the basis of the cost or charge contribution of those noninsured services during the last relevant period under an itemized charging system.

It is quite clear that the overriding issue in dealing with the compatability of inclusive rates and the third party payer group is that of subgroup, rather than aggregate, hospital charges. Even cost reimbursers have coverage limitations and characteristic actuarial composition of subscribers. Each third party payer is convinced, rightly or wrongly, that the composition of his subscriber group incurs a different set or level of hospital services—Medicare patients, for instance, stay longer but use fewer ancillaries—than others do. The risk they see in inclusive rates is that the rate will not be an accurate analog of *their* particular pattern of cost incurrence, that they would become liable for reimbursement for a category or proportion of hospital costs which they were not incurring before. Since their overall cost structure is determined by this pattern of liability, either by coverage provisions or by subscriber selection, it is understandable why it is critical to them that no change occur in the system which would either increase their level of incurrence or shift a portion of incurrence from another sub-population to theirs.

Whether this would happen or not, or whether an inclusive rate system can be designed to minimize this risk—and the foregoing may lay the foundation for so doing—is at this stage of analysis not as relevant as the recognition that this consideration is sufficiently critical that the issue may be raised, and resistance be manifested, even in the face of *a priori* argument to the contrary.

THE ADMINISTRATIVE EFFECTS

Itemized hospital bills are an established part of a complex and subjective system of administrative and organizational interrelations within the health care delivery mechanism. Many of these would be affected by changing to inclusive charging. Unless these side effects can be minimized, or at least predicted, it would be unlikely that broad scale implementation of inclusive rates would gain the support of the principal providers, payers and regulatory parties in the system. In short, as cumbersome as it is, the current working relationships are at least well understood. Inclusive rates are not well understood and their possible implications even less so.

The Patient/Third Party Payer Relationship

The principal feature of the patient-insurer relationship is that of contractual limitation. As a result in part of proliferating ancillaries, most commercial carriers and Blue Cross plans limit coverage or exclude certain items in the language of their formal agreements with subscribers. These carriers might incur substantial expense to modify policy language in any significant way, and risk adverse reaction from subscribers should this result in higher premiums or reduced benefits.

As discussed in the previous section, an operational inclusive rate system must take this factor into account. In retaining the routine and ancillary distinction within the rate, in excluding certain widely uninsured items, and in continuing to differentiate by type of accommodation in deference to third party payers and hospital administrators, a degree of inclusiveness and simplicity would be sacrificed. But it is also clear that without such features, an inclusive rate system would probably be faced with fatal resistance from the largest group of service payers. It remains that these concessions to "impure inclusiveness" are just that, a modification within the concept, and as the experience of present inclusive charges show, are not necessarily consequential in terms of the cost and structural advantages of inclusive rates.

The Patient/Physician Relationship

Representatives of the major hospital-based specialist groups (radiologists, pathologists, and anesthesiologists) as well as private physicians have been quite explicit in their desire to see separate billing for their professional fees retained in those institutions where this is now the practice. The separate professional bill or separate entry on a hospital bill serves the purpose of maintaining a personal relationship between patient and physician, even when the patient has never met the physician. It is contended that if the patient knows the identity of his hospital based specialist, this will enhance that specialist's sense of professional responsibility.

Inclusive rates are neutral with regard to the nature of the doctor-patient role. While some billing cost savings might be realized by conversion in hospitals which now include specialists' charges on the itemized bill, they would be small. The inclusive rate concept addresses itself to the elimination of high-volume item charging. Where hospital-based staff takes a strong position on direct or line billing, the inclusive rate would have little difficulty in accommodating them.

The Physician/Hospital Relationship

A more common obstacle is the contractual compensation arrangements many specialists have with their hospitals involving departmental "revenue". Clearly these incentive compensation agreements cannot be disrupted without proportionate ill-will on the physicians' part, largely directed toward the inclusive rate concept. A feasible inclusive charging system must be compatible with (1) at least the sense if not the precise language of existing medical staff contracts, (2) a workable incentive analog for "revenue", perhaps based on workload data and (3) a control device to verify departmental workload data, in the absence of charge slips and itemized bills. None of these requirements seem impractical to meet; some possible ways are discussed in Chapter Four.

The Third Party Payer/Hospital Relationship

Paying organizations which contract with hospitals for the provision of services to specific subscriber populations frequently play a regulatory role vis-a-vis the hospital. This role may be direct—as in the case of Medicare—where the paying organization (via intermediaries) audits hospital costs and assesses the "reasonableness" of costs.

Other paying organizations are themselves subject to regulation in their dealings with hospitals and thus indirectly bring to bear the scrutiny of independent regulatory agencies on hospital cost levels, utilization experience, charge structures and so on. Some of these agencies actually approve the rates established for Blue Cross, Medicaid, Workmen's Compensation and other state programs. These agencies vary considerably from state to state in their degree of involvement in hospital operations.

As a result of the constant interaction between the hospital administration and this multitude of contracting and regulatory organizations, there has evolved a body of regulations, audit trails, and reimbursement formulas. Most parties agree that the amount of paperwork and redundancy in the system is excessive but each tends to discourage the elimination of an element in the system which is perceived to be of particular use to his organization.

The itemized bill is one such element. Its existence is the greatest barrier to its elimination. Agencies such as Medicare and Medicaid, as well as Blue Cross—despite the fact that as cost payers they rely largely on other data for reimbursement—express a reluctance to do away with the *a la carte* bill, because it is a familiar and readily accessible source of statistical data for hospital and ancillary service utilization by their respective beneficiary groups.

Parties with a role or interest in controlling hospital costs in general are unwilling to do anything to change the availability of relevant data. They include the itemized charge information in this category, and the increased publicity about spiralling hospital costs has caused them to make greater rather than less use of this charge data.

The difficulty in all this is two-pronged. On the one hand, dollar-amount charge data are of very limited relevance to hospital costs—not only do they generally not reflect a particular department's cost relative to another, but the variance between charge and cost is typically so wide that interhospital comparisons are virtually meaningless. Charge data as a utilization control is similarly ineffectual; challenged on the basis of either reasonableness or medical propriety, item-by-item charges can be dismissed simply as special cases or aberrations. An item charge rate is nothing more than a method of generating revenue and at best impedes cost-effectiveness analysis by diverting attention from more fruitful inputs.

On the other hand, however, the third party agencies' desire for the itemized bill is real, and the problem is more than one of reeducation. Insofar as the major government agencies, for instance, continue to project this desire into the requirements for RCCAC and other reimbursement formulas, the likelihood of hospitals finding widespread inclusive rates to be feasible is small—this even if the conversion to inclusive charging inspired the establishment of more relevant and effective information and control modes.

INCLUSIVE RATES AND MEDICAL PRACTICE

There are several significant and particularly pervasive issues raised by inclusive rates which are relatively divorced from the operational and organizational aspects of charging. These include

- the effect of inclusive rates on the structure and allocation of resources within the delivery system
- the question of the *equity* of inclusiveness, and
- the overall issue of utilization.

All these issues relate to medical practice in a sense broader than the topics addressed earlier. As such, especially the latter two have proven to be the most persistent in reactions both favoring and opposing the concept of inclusive charging. All three as well have aspects directly related to the more operational issues discussed previously, and will not be new to the reader.

The Effect on the Delivery Systems

Perhaps the most significant factor contributing to inefficiency and high cost in the U.S. health care delivery system is its structure—or lack of structure. Services that would be more economically provided through one mode of delivery are provided through another. Services that would be more economically provided through a single institution are spread out among many.

There are other factors besides the rate schedule of a hospital which would influence the pattern of institutional utilization in a given community. To some extent, the price for a service may be so high in one institution that it causes the patient to "shop around". If it is clearly more economical to him to receive the service on an ambulatory basis rather than as an inpatient, this could also lead toward a shift in the pattern of utilization and ultimately in the structure of the delivery system. However, the direct financial incentives or disincentives to the patient or doctor may not be so great, and as comprehensive third party coverage expands, may become even less so. Far more important is the geographical distribution of health resources and their relative availability. The decision-making process at the hospital level which determines how its resources are to be allocated can ultimately determine the distribution of hospital services in a community.

Under the current itemized charging system, each ancillary department is a "profit" center in the sense that each produces revenue and incurs expenses. It is now possible for some departments to be "loss leaders"—as is often the case for maternity departments—and others to contribute a disproportionate share toward meeting the hospital's overall costs. Those members of the medical staff who are responsible for operating these high-contribution departments are in a position to exert influence on hospital management in the area of capital expenditure. Their financial contribution to the maintenance of the institution can serve as the basis for arguing preference in future allocation decisions.

Under inclusive rates there would no longer be charges for specific ancillary services. The ancillary departments would cease to be revenue generators. They would be simply cost centers. The hospital itself would be the only center for revenue generation.

Hospital management would continue to consider medical justification for capital expenditures, but the only relevant economic consideration would be whether departmental costs are in line. The variance of actual costs from budgets would become an important economic performance indicator. If the cost per service rendered in a given ancillary department were high, then hospital management could question both the inherent costs of the facilities and personnel used and the level of utilization. Such questions might lead to decisions to reduce the institution's involvement in services it could not provide economically, allowing other institutions that could to pick up the responsibility.

This is a simplification, of course. Most hospitals are not profit seeking businesses. There are many services they must make available, even though they may not be frequently used. Nevertheless, there are areas of significant cost savings which might accrue to the health system as a whole if through regional planning each institution were to limit its participation in multiple uneconomic service areas, without jeopardizing the health care of the community. Inclusive rates are at least contributing toward that end by allowing a clear perspective on the cost structure of the hospital and thereby providing at a minimum the basis for interhospital discussion and analysis of regional delivery economics.

There are many who claim that in order to attract and retain capable medical staff, hospitals must invest in "fancy", if underutilized, equipment. There are others who claim that "cost-pass through" reimbursement essentially guarantees a hospital full coverage of its costs and provides no incentive to operate efficiently. There is truth to both claims. We are not prepared to suggest ways of counteracting these forces, but would suggest that inclusive rates would be consistent with a move toward rationalizing the health delivery structure by helping to rationalize the internal decision-making process.

The Equity of Inclusiveness

One of the most persistent qualitative arguments with respect to inclusive charges is whether inclusive rates are equitable to the patient, based on the definition of equity which says that each person should pay for the services he receives.* They suggest that under inclusive rates no one pays for the services he actually receives, and that as a result patients who would otherwise incur a minor expense in effect subsidize those who would otherwise incur a major expense.

To a large degree, the question of equity is a philosophical one, but certain aspects are appropriate to this discussion.

*A separate but related issue is whether individuals wish to be treated equitably, per this definition. Equity in this sense involves a certain degree of risk—the probability that the medical services required are minor (and inexpensive) vs. the probability that they are extensive and/or frequent (and costly). In this context, health insurance is an avoidance of risk insofar as payment of policy premiums are a gamble against the probability of low medical expense to escape personal liability in the likelihood of costly treatment. It follows in this sense that the nearly 90 percent of the population who are insured against medical expense are avoiding having to pay for all services rendered and therefore "voting" against equitable treatment. When one realizes that those with insurance who get less sick less often in fact pay for the hospital costs of those who are chronically or severely ill, that in fact the premium level represents some "average" of a major portion of hospital per patient costs, it can be argued that inclusive rates are a form of insurance against exposure to inordinately high payment.

There are two extreme points of view as to what precisely a patient receives in a hospital:

— only services directly rendered

— all standby services of the hospital.

The problem is not in determining which point of view is correct. In their own ways, they both are. A patient does receive a specific set of services when he uses a hospital. But he also has access to all services of the hospital on a standby basis. At least 80 percent of hospital costs are fixed, in the sense that they are standby costs and independent of the utilization level.

The problem is in charging for these services. Obviously, no hospital charges on either basis completely. It would be virtually impossible to identify every ancillary service and that portion of routine services attributable to a given patient, let alone cost each of these out separately and establish a unique charge for the patient. By the same token, to assume every type of service—including even the most discretionary "hotel" service—is part of a total standby cost to be spread over the entire patient population would be equally unappealing to most people. Many have even questioned the equity of spreading standby hospital costs over only the sick population.

The fact is most hospitals already do spread certain fixed costs over the entire population. These fixed costs are built into both the routine charge and the individual ancillary charges, and no attempt is made to isolate the "routine" charges associated with a particular patient.

The argument in favor of the equitability of inclusive rates is that itemized charging only partially acknowledges the degree to which hospital services are truly standby in nature. In terms of incremental cost to the hospital the variable cost of each ancillary service is minor. Most of the equipment and staff necessary for the rendering of that service must be in place before the hospital opens its doors.

The issue is not a straightforward one. The most germane point for an analysis of the qualitative impact of inclusive charging is that operationally inclusiveness is no less equitable—or no more inequitable, if you prefer—than *a la carte* charging as it is presently structured, and probably must be structured given its economic characteristics.

Utilization

The most consistent concern, both in terms of reactions during field interviews and most formal qualitative analysis of the inclusive rate concept, is that inclusiveness will result in overutilization, and hence offset administrative cost savings short term and eventually increase overall per-patient costs, as the expense of expanding ancillary departments is reflected in increased rate levels.

Debate over the issue has been complicated by the fact that even some proponents of inclusive rates have come out on the side of increased utilization—insofar as medical practice has been influenced by ability-to-pay, they say, discretionary services have probably been *under*utilized. An earlier section of this chapter argued that the economic argument is likely to be only marginally relevant, since extensive insurance coverage has largely removed the *patient's* ability to pay from the physician's decision process, vis-a-vis indicated services.

The point remains, however, that despite utilization controls, and in the context of a portion of a hospital's staff and payer organizations expecting utilization to increase, there is a conviction that utilization will increase.

Since the resolution of this controversy is critical in assessing the feasibility of inclusive rates, The Boston Consulting Group undertook, in addition to the other phases of this study, an analysis of the ancillary utilization history of two inclusive rate general hospitals which had changed over from itemized charging recently enough to offer detailed and statistically current comparisons. The result of that analysis, summarized below, was that neither hospital has experienced an increase in ancillary utilization greater than objective industry or regional trends would have projected.

A Review of Utilization—Two Inclusive Rate Hospitals. The two hospitals investigated converted from an itemized charge system to inclusive rates in the recent past. West Valley Community Hospital, Encino, California, changed its billing system in mid-1967 while St. Francis General Hospital, Pittsburgh, Pennsylvania, adopted inclusive rates in mid-1968.

These two hospitals represent nearly opposite ends of the spectrum of hospital types. West Valley is a 140 bed, non-teaching, community hospital which serves outpatients by referral only but does not maintain an outpatient clinic. Most of the attending staff physicians have multiple hospital staff appointments to several of the nearby suburban Los Angeles community hospitals; and West Valley operates in direct competition with many of these hospitals for its patient population. Most of the nearby hospitals are somewhat larger than West Valley. St. Francis General Hospital is an 800 plus bed major teaching institution, with almost a third of its total beds occupied by psychiatric patients. In addition, it offers physical medicine and rehabilitation inpatient services. It is one of the largest nongovernmental hospitals in Western Pennsylvania and is one of the area's major referral centers (for example, doing approximately one open heart surgery case every day).

Each of these hospitals has a particular characteristic worthy of special note here. St. Francis has a full time medical director who had been a long term member of the hospital's active medical staff, and had recently been chief of the surgical staff. He has been able to maintain an unusually good working relationship with the medical staff on the one hand and the administrative staff on the other. It is not inappropriate to characterize the medical and administrative staffs of this hospital as "one big happy family"; and this sentiment was expressed by members of both staffs as well as by the chairman of the board of trustees. The study was fortunate to obtain the full cooperation of the administrator and medical director and their staffs.

West Valley Community Hospital's administrator brings a background of cost accounting into hospital management. We were particularly fortunate to obtain extensive, detailed and reliable data describing this hospital's utilization and departmental costs before and after the conversion to inclusive rates, prepared with meticulous attention to cost accounting practices.

Initial interviews with administrators, hospital-based physicians, and members of the active medical staff and utilization review committee in both hospitals suggested that the pattern of resource utilization, and in particular ancillary service utilization, was unchanged before and after conversion to inclusive rates. This was supported by detailed analysis of monthly utilization committee summaries from St. Francis Hospital before and after the billing system changeover. More specific indices of ancillary utilization are displayed in the accompanying exhibits. Use of these indices is based on the following arguments:

The patient load for each hospital was analyzed with regard to admissions, total patient days, and average length of stay for three years, including both of the years bracketing the year of conversion. None of these parameters showed any significant change over this three year period. Some additional data is available for the second year following conversion as well. No attempt was made to analyze the distribution of the patient population by age, sex or diagnosis, except to distinguish newborns from adult and other pediatric admissions, and to note one other subgroup (therapeutic abortion). Since there was no change in mean length of stay experienced by either hospital population, we were able to express ancillary utilization on a per admission basis. (Note that this would not be justifiable if mean duration of stay changed, even if the total patient day load remained constant, since the pattern of ancillary utilization generally varies with time during the inpatient stay.)

Exhibits 25-29 present the data from West Valley Community Hospital. The first figure shows X-ray department utilization over the years 1966-1969. The first three years (1966-1968) are the ones of primary interest. Note that there is no increase in utilization as a result of the change to inclusive rates in 1967. A sharp decrease in "other X-ray procedures per admission" in 1968 is the response to firm policy reminders from the hospital administration regarding inclusion on the inpatient records of X-ray procedures done on outpatients just prior to admission or immediately subsequent to discharge. Total X-ray procedures per admission are slightly higher in 1969 than 1966. This is accounted for by a change in hospital practice which involves the more widespread use of routine admission chest X-rays and routine preoperative chest X-rays (neither of which are generally done in this region).

Exhibit 26 shows clinical laboratory procedures per admission. The striking feature of this display is the dramatic increase in the number of procedures per admission from 1966 to 1967. This was associated with the acquisition of automatic equipment to perform a large battery of blood chemistries on a single, small specimen. It was coincidental that this equipment was acquired during the year of billing system changeover. It is of interest to note that while the gross number of procedures per admission increased approximately 60 percent from 1966 to 1967, the cost of the laboratory service increased by less than 25 percent for this time interval. Subsequent clinical laboratory utilization trends over the next two years show a modest increase, consistent with the general pattern observed in Southern California. It was noted by every physician interviewed in this area that the medical/legal question of physician liability is a critical factor in laboratory and other ancillary service utilization in hospital practice in Southern California.

Exhibit 27 reveals that there is virtually no change in the surgical suite utilization over this four year period. Apparently there is no increased tendency to operate upon a patient because of the fact that it will not be an additional cost to him.

Exhibit 28 shows the rate of surgical pathology procedures. There is little net change over the three year period of primary interest. It is noted, however, that a significant increase in procedures occurs between 1968 and 1969. This increase is

EXHIBIT 25

WEST VALLEY COMMUNITY HOSPITAL

X-RAY PROCEDURES PER ADMISSION

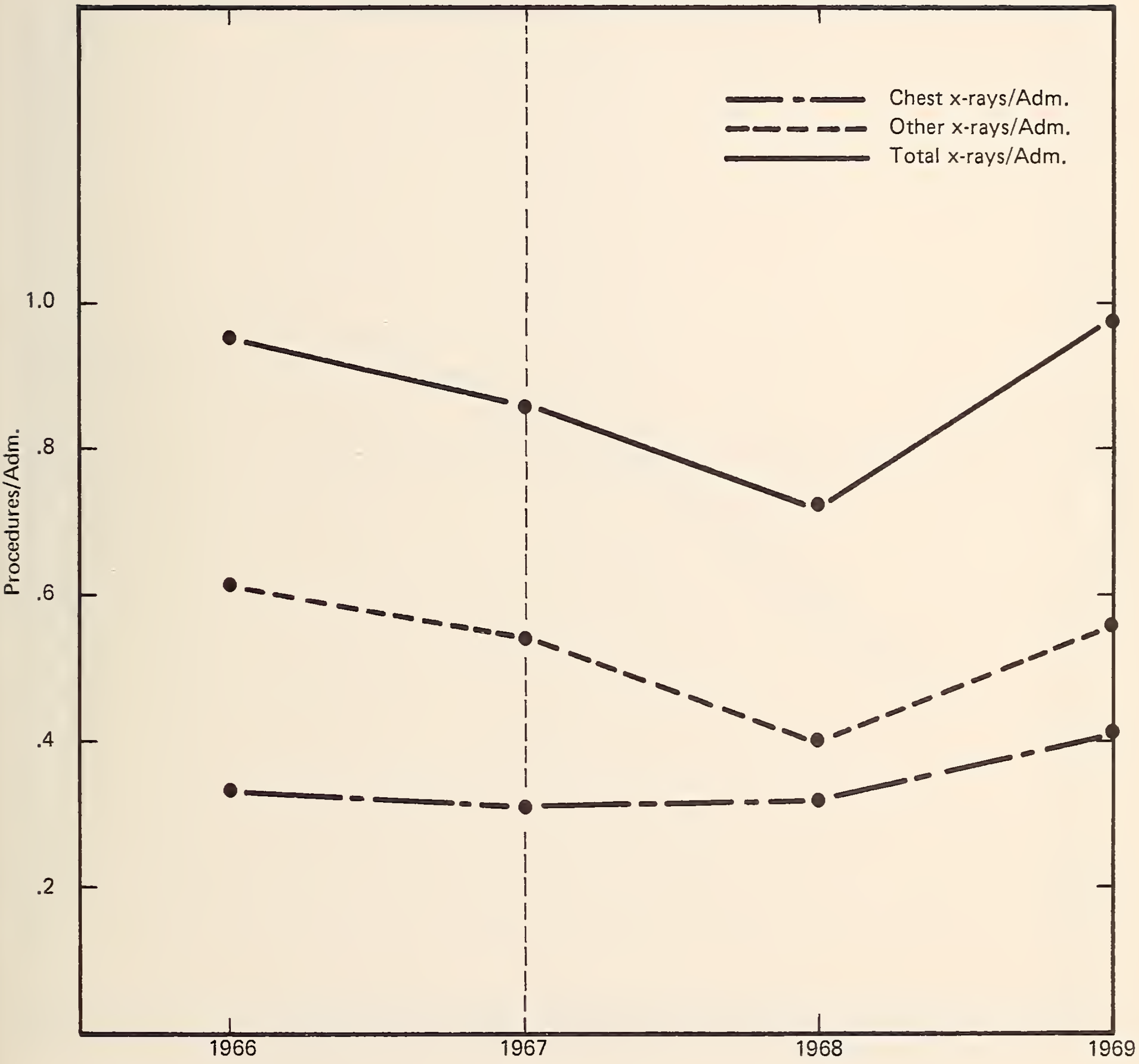


EXHIBIT 26

WEST VALLEY COMMUNITY HOSPITAL

LABORATORY: CLINICAL PROCEDURES/ADMISSION

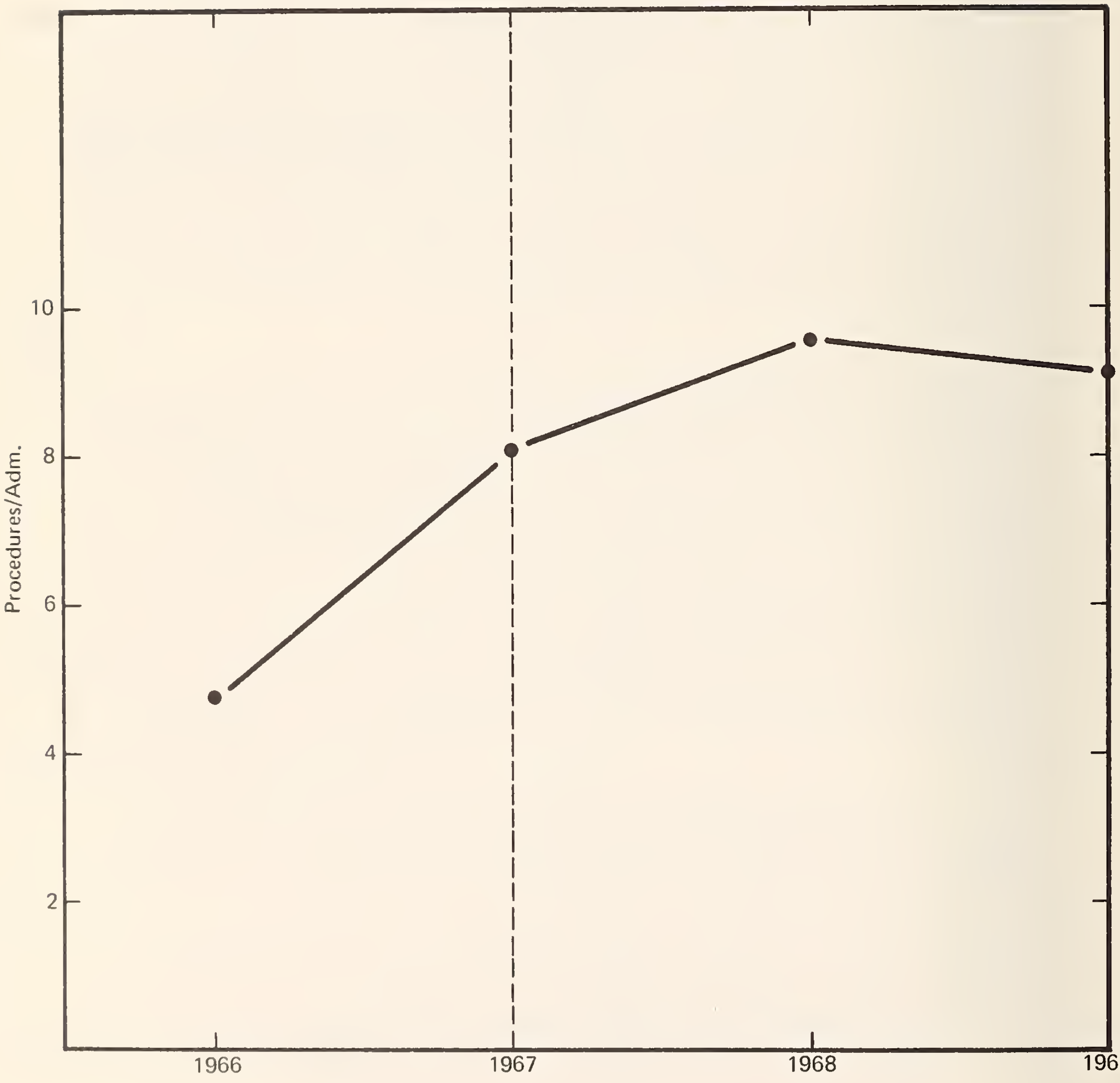


EXHIBIT 27

WEST VALLEY COMMUNITY HOSPITAL

SURGICAL ANESTHETICS PER ADMISSION

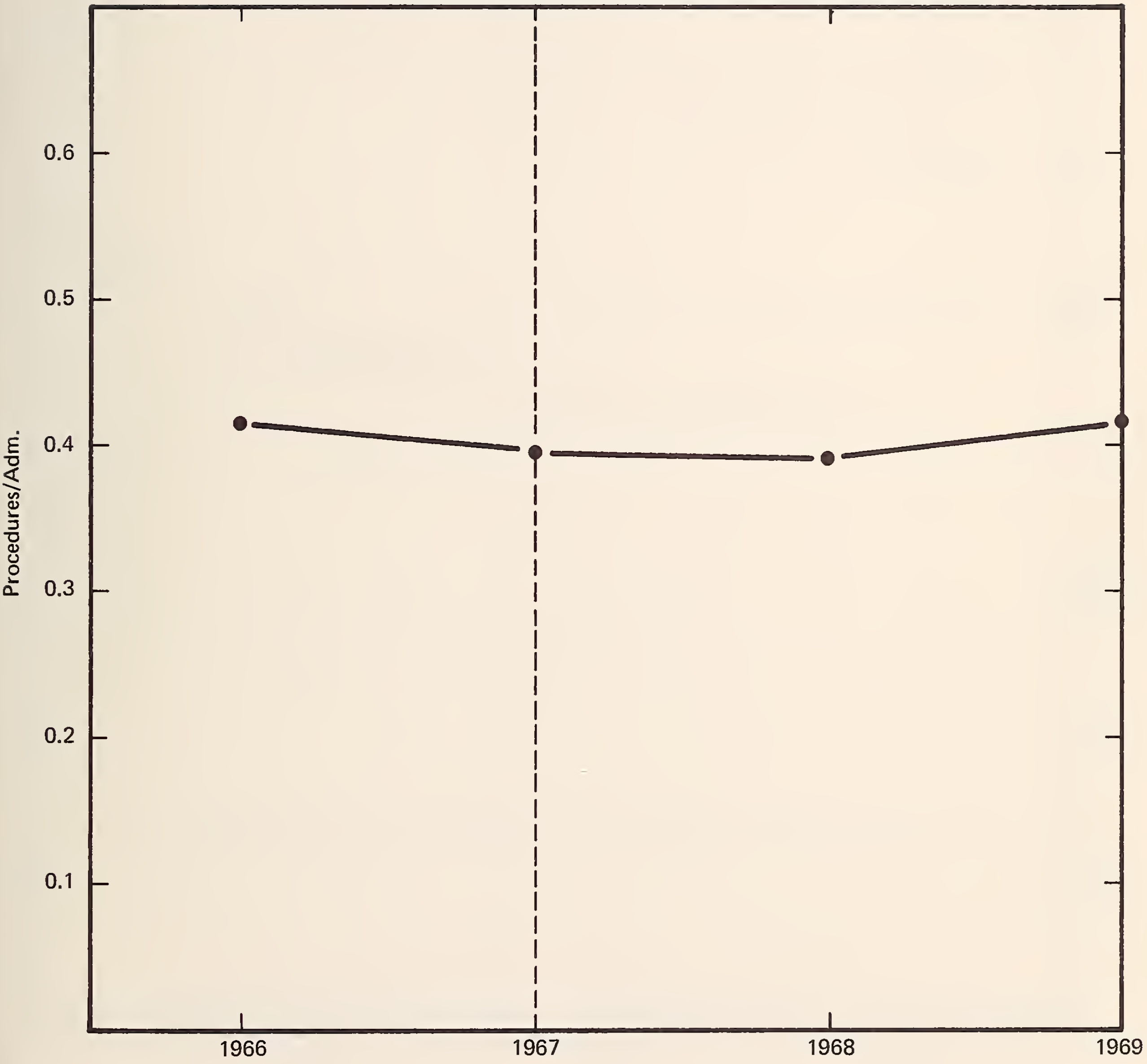


EXHIBIT 28

WEST VALLEY COMMUNITY HOSPITAL

LABORATORY: SURGICAL PATHOLOGY PROCEDURES/ADMISSION

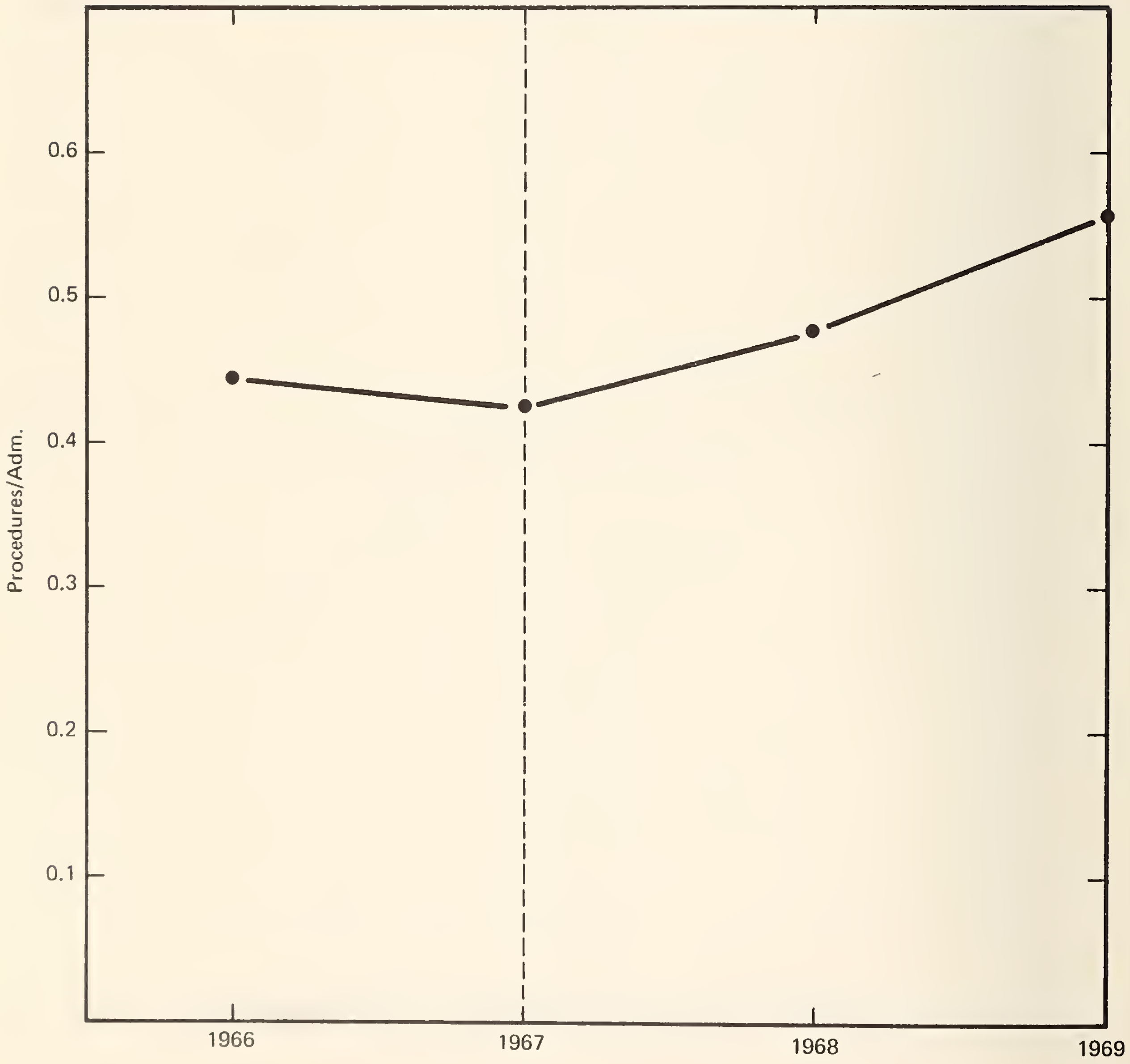
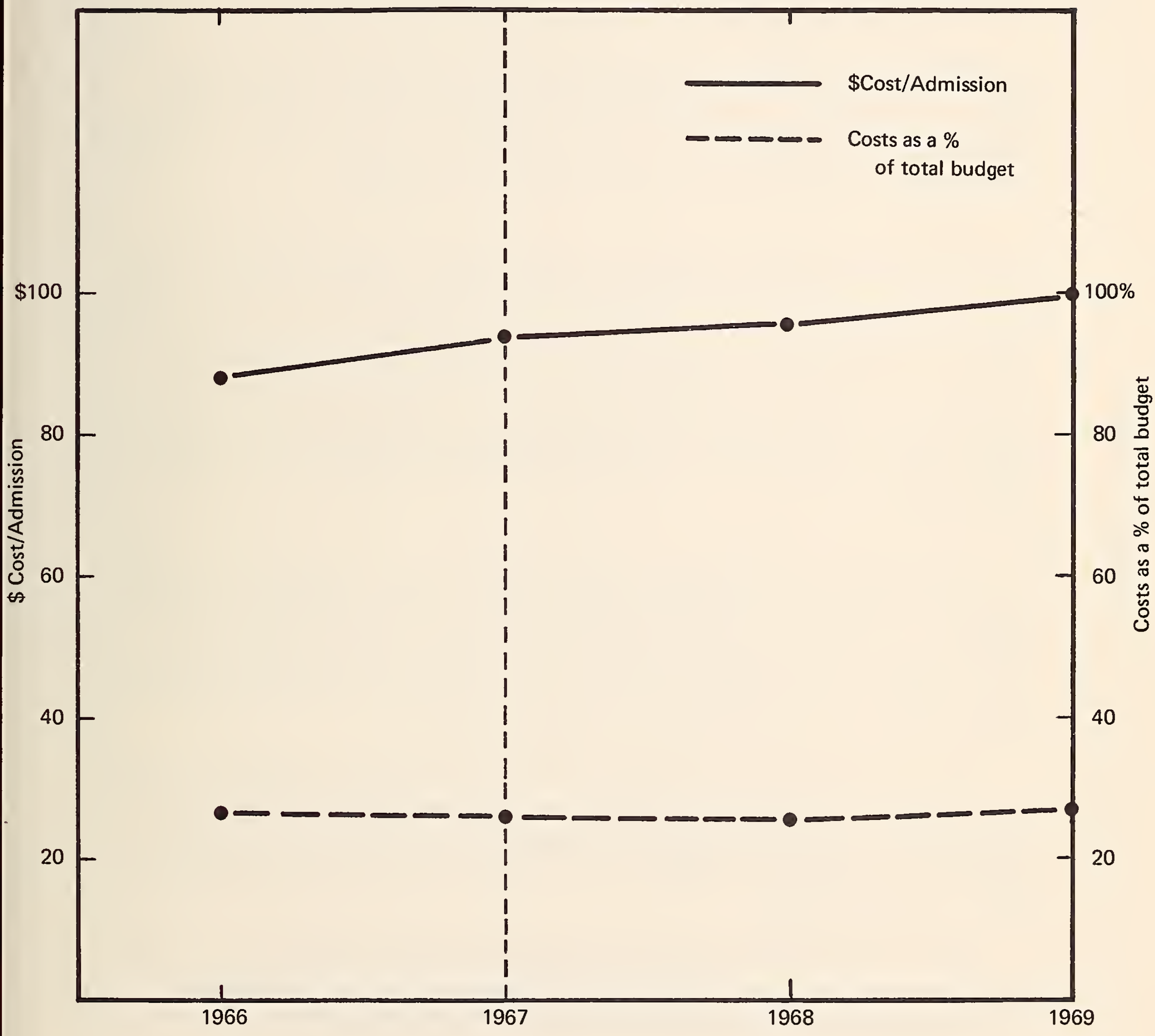


EXHIBIT 29

WEST VALLEY COMMUNITY HOSPITAL

COSTS FOR THE FIVE MAJOR ANCILLARY CENTERS/ADMISSION



due in large part to a change in the medical practice. The law permitted therepeutic abortions in 1967 and ten of these procedures were done in that year. In 1968 approximately fifty therapeutic abortions were done, whereas in 1969 almost three hundred were performed, each of which required a surgical pathology report on the tissue obtained. This latter total represents almost 10 percent of the total surgical anesthetics administered in 1969 and accounts for most of the increase in utilization of the surgical pathology service.

Finally, it is of interest to obtain a broad perspective of ancillary utilization in terms of cost of these services. We selected five major cost centers in West Valley Community Hospital because these five areas represented about 80 percent of the total ancillary cost generated in this hospital's operation. These centers are operating room, pharmacy, central supply service, radiology and laboratory.

Exhibit 29 presents the total cost of these five services per admission for the years 1966 through 1969, expressed in constant dollars. A modest increase is noted over this entire period, again consistent with the general pattern observed in Southern California. While the cost of these ancillary services did, in fact, increase, they were not out of proportion to the remainder of the hospital costs as evidenced by the lower curve in Exhibit 29, which shows these costs as a percentage of the hospital's total operating budget. There is little if any change. It may be noted that a firm administration policy directed at controlling utilization in one department was successful enough in 1968 that the total cost of all five major ancillary services was decreased in that year.

Exhibits 30 through 32 present the data for St. Francis General Hospital for the years 1967 through 1969. Inclusive charging began in 1968. Laboratory utilization (Exhibit 30) and surgical suite utilization (Exhibit 31) are remarkably stable. Procedural data for the X-ray department were not available at the time of this report, but cost figures for the radiology department show a relatively smaller increase over this period of time than observed for the laboratory costs.

There are differences in the absolute values of the utilization rates between the two institutions, of course, which are to be expected based on the different nature of the hospitals and their patient population distribution. Nonetheless, the evidence supports the conclusion that utilization of ancillary services is not dependent on the system of patient charges.

Exhibit 32 shows for St. Francis Hospital, as well as West Valley Hospital, that while costs of the five major ancillary service centers increase over the three year period, they are not out of proportion to the increase in other hospital costs.

EXHIBIT 30

ST. FRANCIS GENERAL HOSPITAL

LABORATORY PROCEDURES PER ADMISSION

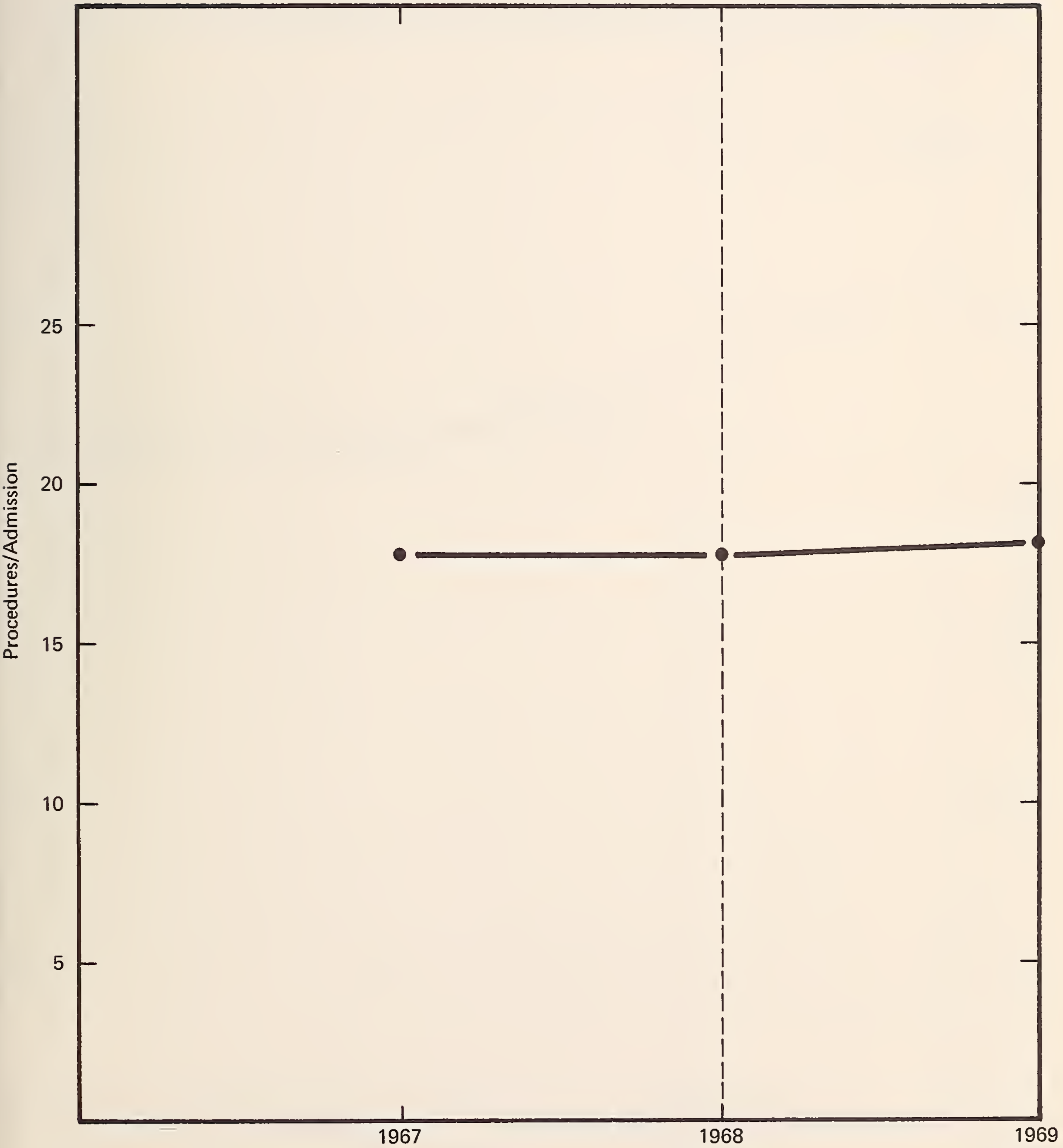


EXHIBIT 31

ST. FRANCIS GENERAL HOSPITAL

OPERATIONS PER ADMISSION

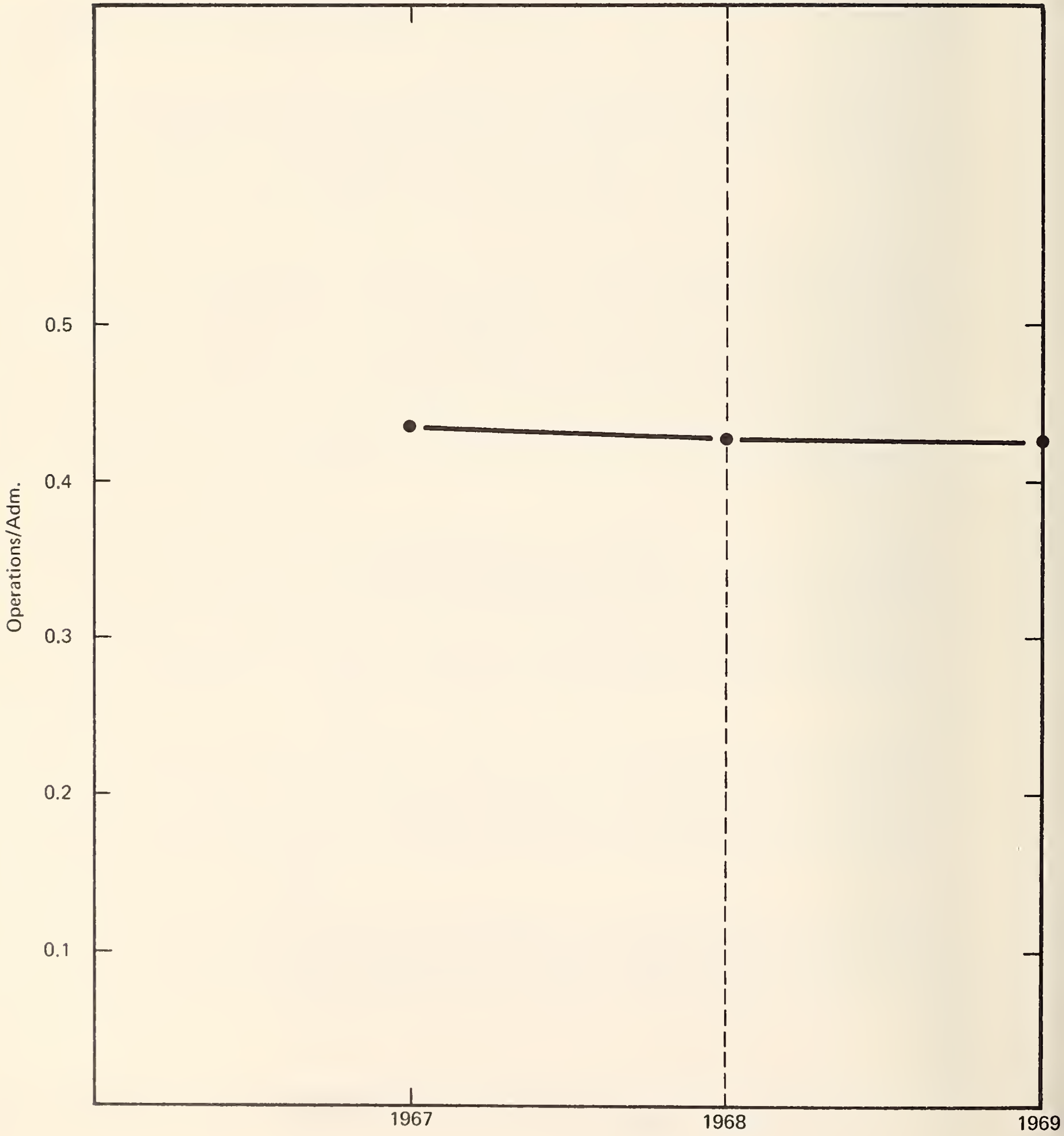
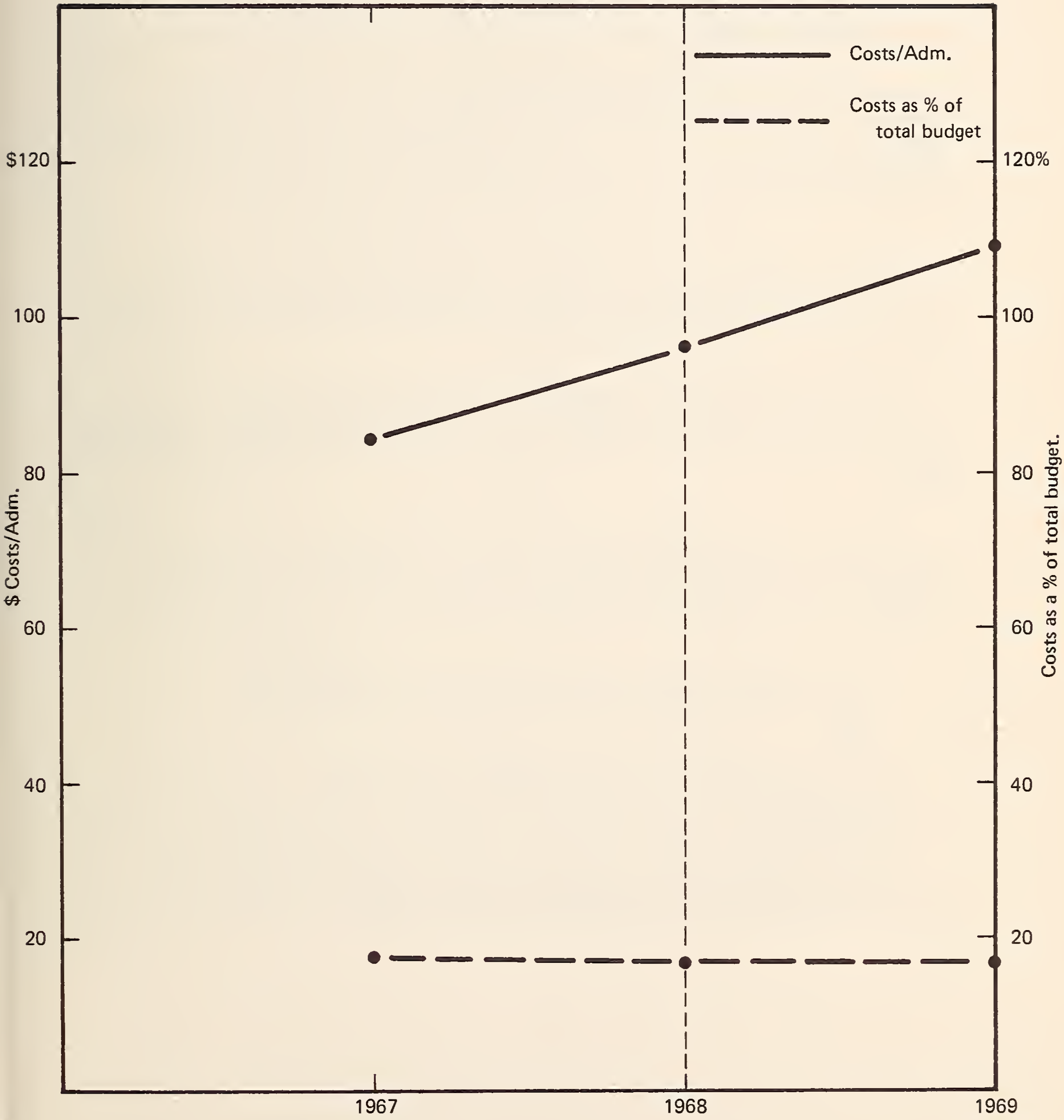


EXHIBIT 32

ST. FRANCIS GENERAL HOSPITAL

COSTS FOR THE FIVE MAJOR ANCILLARY CENTERS



CONCLUSIONS ABOUT FEASIBILITY

Our analysis of the feasibility of the inclusive rate concept has yielded the following conclusion:

- Broader use of inclusive rates appears feasible. No single party unalterably opposes it. No inherent structural inadequacies have been discovered.

At the same time our field interviews indicated that there are few eager to abandon itemized billing. Most parties in the system foresee potential problems in administering inclusive rates. Few question the probable benefits, but all expect difficulties in adjusting to a new system of charging. Some are merely resistant to another change in an industry already subject to a great many changes.

All parties—payers, insurers, providers, regulatory agencies—have learned to cope with the inadequacies of itemization. In some cases they have devised elaborate procedures for compensating for those inadequacies. They are reluctant to replace a functioning system with one that is unknown.

Inclusive rates are attractive nonetheless. The advantages appear not only to outweigh the inherent disadvantages by far, but to address themselves to critical longer term issues in the health delivery system which itemized charging tends to distort.

It is clear, however, that the requirements of the parties in the system must be met in such a way as to minimize their respective uncertainties vis-a-vis inclusive charging. As a starting point for designing a feasible—in the broad sense—inclusive rate system, then, we conclude that two conditions must be adhered to:

- The existing economic and administrative relationships among parties in the system should be preserved to the extent possible.

- The cost containment benefits should be tangible and significant.

These two guidelines have important implications for the design and implementation of a widely-applied inclusive rate charging system.

Chapter Four

RECOMMENDATION OF AN INCLUSIVE RATE

The Boston Consulting Group's examination of the feasibility of inclusive rate charging has resulted in the following operational conclusions:

- Inclusive rate systems are viable, as illustrated by the experience of present inclusive rate hospitals
- Cost reduction potentials are quantitatively significant enough to warrant wider application of the inclusive charging concept
- Structural obstacles to operational feasibility are not insurmountable, given a rate system designed explicitly to take these into account.

It is The Boston Consulting Group's conclusion that an appropriately conceived inclusive rate system

- is simpler
- enhances revenue realization
- is cheaper
- is more equitable, and
- refocusses cost containment efforts in a productive way.

The simplicity of inclusive rates is amply represented by the dramatic reduction in line items, relative to the traditional *a la carte* system, on the patient's bill. This simplicity itself increases patient comprehension, contributing to a more constructive patient/health-system relationship. It also reflects itself in simplifying the hospital budgeting and revenue estimating process: A detailed build-up of item-by-item revenue projections from the price book is unnecessary under an inclusive rate system.

Revenue realization is enhanced by inclusive charging. Greater payer comprehension should result in fewer defaults in payment and bad debts resulting from controversy over the appropriateness of specific charges. In addition, since the inclusive rate includes all the hospital's costs and is automatically applied, it is no longer possible to provide "free services" to patients. And the elimination of item charging avoids foregone revenue from lost charge slips and charge slips reaching the billing office too late for inclusion in the patient's bill.

The elimination of itemized charging is also the prime basis for the cost savings inherent in inclusive rates. Many administrative expenses are eliminated entirely, and others are reduced significantly. The reduction in processing time, with the bill rendered promptly, also speeds up the cash flow from receivables: A hospital which finances receivables through borrowing realizes a tangible savings in interest costs; one which funds receivables internally can free those resources for other uses.

Inclusive rates are in fact more equitable than itemized charging, given the economic structure of a hospital. The fact that a major portion of a hospital's costs are fixed suggests that an *a la carte* payer is actually subsidizing those patients who benefit from the essentially fixed cost, standby capability of the service area involved. The result is that those incurring an itemized charge pay a much higher amount than the incremental cost of their portion of the service rendered; conversely, the nonuser pays nothing for the stand-by benefit. Under inclusive rates the fixed and incremental costs of these general ancillary services are spread over both classes of "users".

Of profound long range importance is the refocussing of overall cost containment efforts. An inclusive rate system allows the administration to evaluate and control departmental performance on the basis of *service provided per dollar of cost,* rather than on the artifical "profit" of the department—"profit" determined by administrative rate manipulation independent of cost effectiveness and largely independent of near-term revenue requirements. Elimination of departmental revenue generation allows the administrator to make capital expenditure decisions on the basis of the needs of the hospital's patient population, rather than on consideration of specific income generation potential.

It is the recommendation of this study that, because of these characteristics, inclusive rate systems be more broadly applied in the U.S. hospital field. We further conclude, however, that the design of the appropriate rate system is of critical importance to the success of such a program.

THE RECOMMENDED RATE SYSTEM

Inclusive rate charging is likely to gain widespread support only if two basic conditions are met by the particular rate system proposed:

- Existing economic and administrative relationships among parties in the system should be preserved to the extent possible.
- The cost containment benefits must be tangible and significant.

Toward that end, The Boston Consulting Group recommends—and details below—an inclusive rate system which

- differentiates between patients by length of stay, produces an ancillary use analog by means of a variable per diem, and distinguishes by type of accommodation;
- excludes, and itemizes, certain discretionary services, take home drugs and appliances, and blood;
- retains present bases of compensation for hospital based specialists;
- contains a routine/ancillary distinction for the use of certain third party payers; and uses aggregate RCCAC for final settlement with cost reimbursers;
- maintains a Level 1 data collection system for hospital management and planning.

The system described has been designed with particular attention to the need, highlighted by our field interviews, to accommodate various parties who evidenced uncertainty as to the effects of inclusive rates on their economic and operational interrelationships. To the extent then that these uncertainties can be minimized without jeopardizing the cost containment potential, we have suggested doing so. The role these tradeoffs play in the recommended system design is discussed in the following sections.

The Selection of the Rate Type

The type of inclusive rate structure chosen can have a profound effect on the existing economic relationships within the charging system—particularly for third party payers.

The largest single item of expense to insurers is the money paid out in claims. This underwriting expense is the result of the incidence of admission among the insured population, their average length of hospital stay, and the ancillary charges incurred. To reflect accurately the cost of hospitalization attributable to any insured group, the charging method must contemplate each of the factors. No administrative savings, within either the carrier or the provider organization, could possibly justify significant changes in the resulting expense level. Any inclusive rate scheme which would be acceptable to major insurers must not result in an "underwriting variance", even if some degree of administrative simplicity must be sacrificed.

Perhaps the simplest inclusive rate to administer is the *lump-sum per admission,* or case charge. For those proponents of the concept of complete averaging, this rate represents the ideal. On the other hand, it fails to consider differing patterns of ancillary utilization. The lump-sum rate therefore must be deemed unacceptable for present purposes because of its potential impact on underwriting cost.

The most commonly discussed form of inclusive rate is the *average per diem:* The total hospital bill is merely an average daily charge multiplied by the number of days that the patient is in the hospital. While this system does take into account the length of stay, it does not consider the possibility that the utilization of ancillary services will vary among payer groups. And it is widely agreed among hospital administrators that for the average patient, ancillary utilization is much higher in the early days of stay than it is in the later days of stay. It is also well known that not all insured groups have the same average length of stay. Consequently, an average per diem will penalize some groups (those with longer than average length of stay). The average per diem rate is not completely acceptable, again because it threatens to distort underwriting costs.

The two examples so far suggest that an acceptable rate must, in addition to taking into account length of stay, reflect some analog of ancillary service usage. Three such analogs share the added advantage of being readily understandable by patient, provider and third party payer*:

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*Other analogs may offer similar levels of accuracy, but immediately suggest problems. Rates by age, sex or financial characteristics of the patient, for instance, may well lead to charges of discriminiation and preferential treatment.

- the *diagnosis* analog
- the *category of care* analog
- the *day-of-stay* analog

An inclusive rate assigned by diagnosis has the obvious advantage of making sense to the patient. It is logical that it would cost "so much for a kidney infection" and "so much for third degree burns", etc. The characteristic level of ancillary care could be readily identified as well. There are, however, significant administrative problems associated with multiple diagnoses and diagnoses which change over time.

Less problematical is the rate assignment by category of care. Such categories are already in fairly common use: medical, surgical, obstetrical, intensive care, emergency, etc. And one of the earliest inclusive rates was, for example, applied to maternity, a typical care category. The difficulty is that the terms, while widely used, are not necessarily defined consistently from institution to institution—and hence, may be inconsistent within an insured population. Also, the frequent change from one category to another during the patient's stay reintroduces the problem of administrative complexity.

It is not surprising then to end up with the basic rate type most common among hospitals already using inclusive rates—*the variable (by day-of-stay) per diem.* It has been found that for the average patient (and presumably for any group large enough to comprise an insured population) a characteristic level of ancillary usage can be determined as a function of the day of a patient's stay—typically the amount of daily usage declines as the stay increases. An effective analog, and one congruent with the average pattern of ancillary charges, the variable per diem is simple to administer insofar as it presents no definitional problem or uncertainty as to the appropriate category the patient is to be assigned to. For this reason, it is the recommended basic rate type.

Type of Accommodation. The recommended inclusive rate could continue to differentiate accommodation categories as appropriate to the particular institution. This may be attractive in one respect as most administrators feel that the surcharge for private rooms is vital in eliminating operating deficits. In another, the use of differing accommodation rates can more accurately account for the intensive care unit. This increases the accuracy of the analog in general and with respect to insurers by retaining traditional proportions between routine and ancillary services*, since the principal distinguishing cost component of intensive care is nursing care, typically a routine or accommodational charge.

Excluded and Other Items

Such universally uninsured items as television, telephone, take-home devices and drugs, and blood, should be excluded from the inclusive rate. The itemization of these charges will not affect the cost savings from the inclusive rate materially. Many of the charges are initiated in the business office anyway, and others are very low in volume—the support of an expensive charge slip flow system is not required for their continuation.

Other exclusions may be necessary in light of insurance coverage in the region. Generally, exclusions from insurance coverage follow a definite pattern in each insurance marketing area. If most of the major insurers do not cover a particular ancillary service in a region, it probably should be excluded from the inclusive rate. However, this determination must be made by the institutions in that region based upon the volume of paper work which would result from such exclusion. Infrequent items of major expense can be excluded from the inclusive rate without consequence. However, it must be recognized that the exclusion of high volume items will seriously undermine the cost saving potential of the inclusive rate.

Professional Fees. In hospitals where hospital-based specialists now bill separately or itemize professional fees separately on the hospital bill, the practice should not change as a consequence of a shift to inclusive rates. Similarly, there should be no reason to change arrangements with hospital-based specialists who are salaried.

For those physicians who are presently compensated by the hospital on a fee schedule or percentage of departmental income, one of two procedures may be utilized depending upon the individual hospital situation. The simplest procedure is to establish the relative value scale of each type of procedure, establish from this a fee per relative value point based on total compensation in the last year under itemized charging, and then use this fee per procedure point to develop appropriate compensation based on the departmental log in succeeding years. Alternatively, an imputed departmental income can be computed by applying the charges which were in effect at the time of conversion to inclusive rates to each of the procedure categories. The percentage fee which the physician receives can then be applied to this imputed income.

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*It is important to note that the existing ratio of routine to ancillary charges must be preserved in the variable per diem, whether the routine portion is different for accommodation types or not. Given the differentiation between the two types of service in most major insurance contracts, the argument previously stated regarding underwriting expense applies equally to the routine and ancillary expense subtotals as it does to the gross total expenses for the insured population.

* * *

Exhibit 33 illustrates the form of an inclusive rate system embracing the features described to this point. The schedule would also conform to the format of billing suggested in the following section to conform to certain third party payers' anticipated requirements.

The Reimbursement Process

The changes which occur in the reimbursement process should be administrative in nature, rather than ones which affect the level of reimbursement and the historical relationships which obtain between providers and payers. Similarly, it should be noted that inclusive rates are neutral with respect to prospective charges. An inclusive rate system certainly lends itself to the establishment of prospective charges. But it should be emphasized that it also works equally well when final settlement must be administered; in fact it simplifies that process.

Payers who presently pay charges would continue to do so. Hospitals converting to the inclusive rate should be prepared to provide commercial insurance carriers with the split between routine and ancillary charges, as for example shown in Exhibit 34. This will satisfy the administrative requirement of contracts which call for full service, a percentage payment, or a dollar limit toward routine and/or ancillaries. The only administrative problems will occur when specific ancillary services are excluded from coverage. Hospitals adopting an inclusive rate should attempt to work these exceptions out so that the insurers will pay the inclusive rate. This approach has been successful in many of the present inclusive rate institutions. If this cannot be accommodated, then the hospital must insist that the insurer determine what percent of the daily charge(s) it is willing to pay and the hospital must bill the balance to the patient. (Exhibit 35 illustrates examples of various settlement alternatives.)

For those payers who reimburse on the basis of cost, and consequently require a final settlement, the following system is recommended:

EXHIBIT 33

ILLUSTRATIVE EXAMPLE – INCLUSIVE RATE

ROUTINE

Intensive Care Unit	100
Private	65
Semiprivate	60
Ward	55

ANCILLARY

DAY	1	2	3	4	5	6	**7 and after**
	60	57	48	42	39	31	27

The following items are not included in the above notice:

Television – $2.00 per day

Telephone – .50 per day

Take-home drugs and supplies

Blood

Anesthesiologist fees

EXHIBIT 34

SAMPLE BILL – INCLUSIVE RATE

Admission date – 8/12/70

Discharge date – 8/21/70

Intensive Care Unit (2 days)	$ 200.00
Semiprivate room (7 days)	420.00
Ancillaries (9 days)	358.00
Blood	75.00
Take-home drugs	12.25
Television	10.00
Telephone	4.60
TOTAL	$1,079.85

EXHIBIT 35

SAMPLE INSURANCE COMPANY SETTLEMENTS OF SAMPLE BILL IN EXHIBIT 34

N.B. All hypothetical policies below exclude blood, discretionary items and take-home drugs and supplies.

POLICY A:

Indemnity on routine –	$500.00
Fixed percentage of ancillaries –	80%

	Charges from sample bill	Covered by Policy	Billed to patient
Routine	$620.00	$500.00	$120.00
Ancillaries	$358.00	$286.40	$ 71.60
TOTAL	$978.00	$786.40	$191.60

POLICY B:

Service contract on routine	
Indemnity on ancillaries –	$250.00

	Charges from sample bill	Covered by Policy	Billed to patient
Routine	$620.00	$620.00	–
Ancillaries	$358.00	$250.00	$108.00
TOTAL	$978.00	$870.00	$108.00

EXHIBIT 35 (Continued)

POLICY C:		
	Indemnity on routine –	$500.00
	Fixed percentage of ancillaries –	80%
	X-rays excluded from coverage	

	Charges from sample bill	**Covered by Policy**	**Billed to patient**
Routine	$620.00	$500.00	$120.00
Ancillaries	$358.00	$209.07	$148.93
TOTAL	$978.00	$709.07	$268.93

N.B. Insurer's rule-of-thumb assumes 27% of ancillary charge covers X-rays.

27% of $358.00 is $96.66

Therefore, allowable ancillaries are
$358.00 minus $96.66 or $261.34

Coverage is 80% of $261.34 or $209.07

- *Interim Reimbursement* is made at the time of payer category verification and is a standard lump-sum per admission negotiated on an annual basis. This feature eliminates the need for interim billing, and is a further simplification of administrative procedures between payer and provider.

- *Final Settlement* is made at year-end by accumulating aggregate charges applicable to the payer, determining the percent which these represent of total hospital charges, and applying this percent to total allowable hospital cost (aggregate RCCAC). (See Exhibit 36.)

The use of inclusive rates will necessitate a special arrangement for Part B of Medicare for those hospitals which include physicians' services in the inclusive rate. This must be negotiated with the Medicare intermediary and can be most easily administered by agreeing on a physicians' fee per day of hospital care. Supporting data for establishing this fee can be developed by sampling medical records for Medicare patients.

Cost Containment and Management Information

Cost containment benefits should clearly be tangible and significant if inclusive rates are to be implemented. It has also been noted that the cost of the charging system is primarily the administrative cost associated with the data collection process required to operate the system. This system is largely a function of the third party payers who have contractual or regulatory relationships with hospitals, i.e., Blue Cross and Medicare.

The reimbursement procedures outlined above would not make any special requirements on the data collection system. They are based on the assumption that payers would accept the validity of the declining rate analog. Each hospital would set its own level of rates and the pattern of decline based upon its own particular range and pattern of services. The process of setting these rates would be a periodic sampling of the ancillary services associated with each day of care in the institution. For purposes of management information and planning, a Level 1 data collection system* in each ancillary department would be sufficient. In order to verify periodically the validity of the departmental log sheet, it is recommended that carbons of service requisitions be retained in the accounting office without any processing or

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*See Chapter Two for a detailed description.

EXHIBIT 36

MEDICARE AGGREGATE RCCAC SETTLEMENT UNDER INCLUSIVE RATES

Total inpatient costs		$32,904,680
less disallowable expenses:		
— fund-raising expenses	$ 17,560	
— non-reimbursable bad debts	$ 52,310	
— gift shop operation	$ 31,720	
— amount applicable to Part B for hospital — based physicians	$3,320,230	$3,421,820
Total allowable costs		$29,482,860

Day of Stay	Medicare days	Rate	
1	9,890	$120	$1,186,800
2	7,870	117	920,790
3	6,110	108	659,880
4	5,730	102	584,460
5	5,220	99	516,780
6	4,780	91	434,980
7 +	63,560	87	5,529,720

Medicare charges = $9,833,410 = 29.13% of total charges ($33,762,130)

Medicare share of costs = .2913 x $29,482,860 = $8,588,357

EXHIBIT 37

STATISTICAL SETTLEMENT OF COST REIMBURSER UNDER INCLUSIVE RATES

Category	Total Cost	Total Units of Service[1]	Medicare Units of Service[1]	Medicare Share of Cost
Routine	$3,400,000	73,000	25,000	$1,162,000
Miscellaneous ancillaries	224,000	73,000	25,000	72,000
Operating room	618,000	18,000	4,500	155,000
Anesthesiology	280,000	18,000	5,040	78,500
Radiology	280,000	80,500	28,800	98,000
Laboratory	674,000	182,500	63,900	236,000
Pharmacy	112,000	534,000	203,000	42,600
	$5,588,000			$1,844,100

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[1] Denominated in days for routine service and miscellaneous ancillaries and relative value scale points for listed departments.

posting. When an audit of the departmental log is desired, these carbons could simply be pulled from the file for a given period and be used as a check against the log.

The combination of a Level 1 data collection system with sampling used for establishing the rates would provide the maximum cost savings under an inclusive rate scheme and consequently is the design which is most attractive to implement from a cost savings viewpoint. As discussed in Chapter Two, potential savings from an inclusive rate using the Level 1 data collection amount to 36.5 percent of the costs presently associated with billing in the seven sample hospitals. The savings from Levels 2 and 3 are substantially less: 23.8 and 15.0 percent, respectively.

The importance of significant cost reduction potential for inducing hospitals to convert to inclusive rate charging is a strong argument in favor of the Level 1 system. The additional savings possible through faster collection of receivables, although significant, would not materially be affected by the choice of data collection level.

Level 1 data collection has other virtues:

- Because of simplicity, it would require the least work in the ancillary departments
- Because there would be no assignment of ancillary services to charge categories (as there is in Level 2 and 3 systems), there is no possibility of returning to charge data for utilization review, with all the attendant problems built into this inappropriate tool.

However, if the cost reimbursers were unwilling to accept declining inclusive rates alone as an analog for a portion of costs, it would still be possible to achieve significant cost savings through the institution of a Level 2 recording of work load data. Under this system, all reimbursement steps except final settlement would operate as above. Final settlement with cost reimbursers, rather than being on the basis of aggregate RCCAC, would be achieved by applying the fraction of procedures attributable to a payer category in a given ancillary department to the cost of operating that department (Exhibit 37). It should be noted, however, that both cost and administrative complexity are substantially increased.

Chapter Five

MAJOR STEPS IN CONVERSION TO INCLUSIVE CHARGING

The most important step in a hospital's conversion to inclusive rates is the commitment which the administrator makes to the concept. The hospitals which have successfully established inclusive rate charging systems have done so because their administrators believed in the concept and announced plans to implement inclusive rates to his third party payers. Initially, some resistance did occur as it always may when change is attempted. Unless third party payers are made aware that the hospital intends to implement inclusive rates, there will be many road blocks. If it becomes clear that the hospital is firm in its commitment, discussions with third party payers will focus on working out the administrative details. It is generally true that when third party payers face a resolute administrator, administrative problems can be resolved. In fact, although we would not recommend this approach, inclusive rates can be implemented unilaterally. The ease with which this may be accomplished is indicated by a letter sent by the administrator of St. Francis Hospital in Pittsburgh to that institution's third party payers. The letter simply informed payers of the date on which St. Francis would convert to inclusive rates, and described the rate structure. No discussions preceded this letter. Inclusive rates were implemented without any difficulty.

DESIGN OF INCLUSIVE RATE

Once the administrator has become committed to the concept of inclusive rates, the first step is to design the rate scheme for the particular hospital in light of its unique pattern of care delivery and payment. A preliminary rate design should be developed with exclusions based on those found in the majority of local insurance contracts. Once this has been established, the level and decline pattern of the rates suitable to the particular institution can be determined. Based on this preliminary design, we would recommend consultation with the institution's cost reimbursers. The purpose would be to work out the reimbursement process in such manner as to maximize the benefits of the inclusive rate through the greatest possible simplification.

Proceeding from this input, consultations should also be held with major charge payers to establish the administrative procedures (and if necessary, to revise the rate design in accordance therewith) which will obtain for each of them. Of particular importance in this regard is the procedure for items which are not covered under prevailing insurance contracts. To the greatest extent possible, these should be negotiated so that the maximum administrative savings may be achieved by the hospital.

Once these steps have been accomplished, the rate design should be finalized and the specific amount of the rates established. Using day of stay as the charge analog for ancillary services rendered, the rate is devised by sampling past medical records to establish the pattern of ancillary usage for each day of stay in the institution. In constructing the inclusive rate charging structure by day of stay, there are several steps that must be taken. The major steps, in broad outline, are as follows:

- Assemble historical (previous year or years) annual operating data and statistics regarding actual hospital procedures performed, hospital costs, and patient days.

- From medical records for the most relevant hospital year, select a sample of hospital admissions, trace them through their stay in the hospital, and annualize the patient sample to obtain a yearly ancillary pattern representative of that patient sub-population. For this sample to be valid and representative for constructing a current inclusive rate charging structure for the hospital, it must reflect the same average length of stay that the hospital is currently experiencing. Hence, the total patient days of the sample, when annualized, must equal the hospital's total patient days of care. The sample patient population must also include the same proportion of Blue Cross, Medicare, Medicaid, private insurance, and other patients that the institution expects to have on an annual basis.

- Tabulate the number of procedures performed on the sample patients in the first day, second day, third day, etc. of their stay. The procedures should be tabulated by individual ancillary services so that costs can be related to the day of stay. Extrapolate this tabulation into annualized total.

- Take the last (or most representative recent) year's operating costs for the hospital and add to these any budgeted projections of increased costs representing an estimation of the current or forthcoming year's costs. Analyze the costs and allocate appropriately to obtain a total cost for each operating department. Take the tabulation of procedures by day of stay and distribute the total procedures' costs into each day of stay according to the usage of each operative department by the patient sample. Finally, distribute the total remaining estimated costs for the coming year on a day of stay basis. Add any percentage margin over cost required for capital expenditures to obtain the total amount to be charged each patient for each day's stay, either as a single inclusive hospital rate or a series of inclusive rates for major operating departments.

– The resulting charging structure will comprise a varying inclusive rate (or rates) according to day of stay for the patient mix and length of stay of the average patient population of the hospital. Sequencing the inclusive rate or rates by day of stay, according to single days or blocks of days, then describes the ancillary usage slope inherent in the overall inclusive rate charging structure for the hospital.*

In one institution of approximately 200 beds, a satisfactory analog was achieved by sampling 50 percent of the admissions during a 3 month period. This required approximately 2 man weeks.

PUBLIC RELATIONS AND STAFF ORIENTATION

A major hindrance to instituting all-inclusive rates in the past has been lack of general understanding and acceptance of the concept. To insure a successful conversion to inclusive rates, a hospital administrator must explain the principal of inclusive rate billing to the general public, to the hospital's patients, and to his own staff.

Community/Patients

Public relations have been successfully conducted through addresses to church and civic groups, articles in the press and brochures included with patient bills. (See Exhibit 38.)

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*The method of inclusive rate calculation described is essentially the one used at West Valley Community Hospital in Encino, California (Carl A. Gottschalk, Administrator) and reported in Mr. Gottschalk's article, "An All-Inclusive Daily Rate", *Hospital Forum,* June 1970.

EXHIBIT 38

AN EXAMPLE OF AN INFORMATIONAL BROCHURE ON INCLUSIVE CHARGING

University Hospitals
of Cleveland

Lakeside Hospital
Babies & Childrens Hospital
MacDonald House
Leonard C. Henna House
Howard M. Hanne Pevilion
Rainbow Hospitel
Abington House
The Clinics
Weern Medical Research
Laboratory

2065 Adelbert Road
Cleveland, Ohio 44106
Telephone: 791-7300

5-0112-3 R5/70

INFORMATION

For Private Patients

Effective May 31, 1970

ADMITTANCE

Patients scheduled for afternoon admittance to either Lakeside Hospital or Hanna House should be at Hanna House, 2045 Adelbert Road between 1:30 and 3:30 p.m., except Saturdays. Patients scheduled for Saturday admission to · hese two hospitals will be admitted through the Admitting Office which can be reached by way of the Lakeside Emergency Entrance.

Maternity patients should be taken to MacDonald House, 2105 Adelbert Road.

Children scheduled for admittance should be taken directly to Babies and Childrens Hospital, 2103 Adelbert Road.

Abington House patients should be admitted directly to Abington House, 2073 Abington Road.

Emergency cases are admitted at any hour at the Emergency Entrance of Lakeside Hospital, 2044 Abington Road.

Suggested items to bring are comb, brush, shaving and toilet articles, eyeglass case, night clothes, slippers and bathrobe.

DISCHARGE

All patients, except obstetrical patients, are expected to make arrangements to leave the hospital no later than 11 a.m. on the day of scheduled discharge in order that facilities will be available for incoming patients.

Obstetrical patients are expected to make arrangements to leave the hospital between 11 a.m. and 12 noon on the day of scheduled discharge.

A charge is made for the day of admission but no charge will be made for the day of discharge if the room is vacated as stated above.

HOSPITAL CHARGES

University Hospitals use a patient charge system which combines the costs of the services which a patient may need during his hospital stay.

Our system is based on two charges, an Accommodations Charge and a Service Charge, which cover the cost of all normal services that patients may need.

For those rarely used or unusual services, we have a Special Charge schedule.

Our system of charging has been in use at University Hospitals for more than 30 years. Through the years, the advantages of such a system have become obvious for several reasons.

This method assures your physician direct access to all of the many hospital services and facilities based upon medical need. Thus, it assures all patients the benefits of all hospital services that are required

It allows you to easily predict the cost of a given hospital stay for your type of accommodation without having to consider countless extra "individual item" charges.

Every patient uses some of these services and there are times when a patient may require all of them. Regardless of the individual situation, we must have all of these services available at all hours for any patient who may need them.

Teaching hospitals such as ours, which are closely affiliated with medical, nursing and dental schools, have, as a rule, higher operating costs. This is true, not because the patient is expected to underwrite the costs of these educational programs, but because the teaching hospital generally offers a much wider variety of services than most hospitals. This availability of special

EXHIBIT 38 (Continued)

AN EXAMPLE OF AN INFORMATIONAL BROCHURE ON INCLUSIVE CHARGING

services guarantees our patients the finest possible medical care in keeping with the highest possible standards.

ACCOMMODATIONS CHARGE

The Accommodations Charge varies according to the type of accommodation, and includes:

Room
Meals
Regular Nursing Service

This charge for Medical, Surgical, Gynecological and Pediatric patients is as follows:

4-patient room	$79.50 per day
2-patient room	$82.50 per day
1-patient room A	$87.50 per day
1-patient room B	$90.50 per day
1-patient room C	$95.50 per day

The Accommodations Charge for Obstetrical patients is as follows:

3-patient room	$79.50 per day
2-patient room	$82.50 per day
1-patient room B	$90.50 per day
1-patient room C	$95.50 per day

SERVICE CHARGE

The Service Charge is the same regardless of type of accommodation and includes the following:

Operating Room Service
Delivery Room Service
Recovery Room Service
General Laboratory Service
Electrocardiograph Examinations
Electroencephalograph Examinations
Metabolism Examinations
Artificial Kidney
*Radiology Service
Oxygen Therapy
Physical Therapy
Occupational Therapy
**Anesthesia Service
Intravenous Solutions
Ordinary Drugs

*Does not include professional fee of the radiologist.

**Does not include professional fee of the anesthesiologist.

For Medical, Surgical, Gynecological and Pediatric patients, the Service Charge is:

First seven days:	$65.50 per day
After seventh day:	$51.50 per day

The Service Charge for Obstetrical patients is:

First five days:	$60.00 per day
After fifth day:	$46.50 per day

SPECIAL CHARGE

A Special Charge will be made for any of the following if used:

Radioactive Materials
Blood Bank
Special Laboratory Tests
Special Prescriptions
Special Appliances
Telephone and Telegraph

HANNA PAVILION, RAINBOW HOSPITAL, ABINGTON HOUSE

Patients in the hospitals listed below are charged a single rate which includes both the Accommodations Charge and the Service Charge:

Hanna Pavilion	$133.00 per day
Rainbow Hospital	$78.50 per day
Abington House (except second floor)	
Private	$115.00 per day
Semi-Private	$103.00 per day

DAILY CHARGE FOR INFANTS

The daily charge for a newborn infant is:

MacDonald House	
Nursery	$47.50 per day
Premature Suite	$75.00 per day
Other Accommodations	Established rates

All charges stated in the preceding paragraphs are subject to change without notice.

SPECIAL NURSES

The Hospitals will aid in securing services of special nurses upon request of the patient or relatives.

None of the stated charges includes services of the attending physician, physician anesthetist, radiologist or special nurse.

SALES TAX

Hospitals are required by law to charge sales tax on supplies taken home by the patient.

PAYMENT OF HOSPITAL ACCOUNTS

Accounts should be settled weekly and all bills paid in full at the time of leaving the hospital.

For the convenience of patients and visitors, the Cashier's Office in Lakeside Hospital is open weekdays, 8:30 a.m. to 8:00 p.m., except Saturday when it closes at 4:00 p.m. Sunday and holiday hours are from 10:00 a.m. to 4:00 p.m.

The service of the Hospital Finance Corporation is available. This is a non-profit, non-commercial organization operated for the convenience of patients if deferred payments are necesary. Arrangements for the use of this service should be made at the Credit Office at the time of admission or as soon as possible.

SPECIAL INFORMATION FOR HOLDERS OF CONTRACTS WITH BLUE CROSS OF NORTHEAST OHIO

CHARGE FOR INFANT CARE

Blue Cross reimburses hospitals for the care of the newborn infant during the hospital stay of the mother. If the infant remains after the discharge of the mother, the family will be charged as indicated on the other pages of this folder, unless the infant has been enrolled under a family contract.

HIGHER PRICED ACCOMMODATIONS

If the holder of a Medicare or Blue Cross of Northeast Ohio contract elects at any time during his hospital stay to take accommodations more expensive than those provided by the contract, the hospital will charge the patient the difference between the rate for the more expensive accommodations and the rate for the accommodations provided by the contract.

The brochures we reviewed were short and simple, stressing mainly:

- the logic of the inclusive rate considering that, to quote from the University Hospitals of Cleveland brochures, "regardless of the individual situation, we must have all of these services available at all hours for any patient who may need them,"
- the comparison argument that patients benefit from receiving services "based entirely upon medical need,"
- the cost-saving potential, and
- the ability of the patient to predict the total cost of his stay.

For maximum effectiveness the public relations effort should also:

- explain the advantages of the inclusive rate's self-insurance effect,
- assert that the new billing method will not disrupt the patient's third party insurance benefits,
- clarify the structure and contents of the inclusive rate, stressing it cannot be compared to the routine daily charge of itemized charge hospitals.

Attending Physicians, Residents and Interns

The same logic which is used in explaining the inclusive rate concept to the community should be used in explaining it to the attending staff. In addition, simplicity of comprehension should be stressed to staff members. It is likely that almost every physician has experienced the difficulty of trying to explain a somewhat mysterious itemized bill to one of his patients. Physicians will undoubtedly find the simplicity of an inclusive rate bill most appealing.

An attending physician must recognize that inclusive rate billing does not enable his patients to receive medically-unjustified services without extra cost to them. Such waste will not affect their current bills, but rates will be raised to cover the increased costs and his future patients will foot the bill.

Residents and interns, as well as attending physicians, should be reminded that the ordering of unnecessary services may so congest ancillary departments that needed services cannot be provided when medically required.

Finally, the administrator should point out that, while the hospital cannot tolerate overutilization, an inclusive rate enables the physician to practice his profession without regard for the price of individual procedures.

Nurses and Paramedical Staff

The "humanitarian" motivation of nurses and paramedical personnel may require redirection under an inclusive rate.

As patients no longer pay for supplies as used, "private stocks" for needy self-pay patients are inappropriate. It must be carefully explained that a good or service which is not billed to an individual is not the same as a free good or service. These hospital personnel have a greater responsibility under an inclusive rate to be vigilant against waste because excess cost will be borne equally by all patients, including the needy, self-pay ones.

ESTABLISHMENT OF DATA COLLECTION SYSTEM

Forms must be developed for each of the ancillary departments to use in summarizing the services provided. The administrator should think through the categories into which he wishes to group the procedures of a particular department, since this will become a primary source of management information. One possible categorization is to group together procedures which have identical values on the relative value scale. The particular categories, of course, will have to be determined according to the needs of the individual institution.

In each ancillary department, responsibility for the preparation of the summary sheet will have to be assigned. A specific determination will have to be made as to the source document which is the basis for entry in the summary sheet. A procedure for the retention of duplicate requisition sheets must be established so that these will be available for periodic validation of the utilization log summary.

Once these steps have been completed a training program must be undertaken for the ancillary department personnel who will have responsibility for making entries to the log. The importance of these entries to hospital record keeping should be clearly impressed on these personnel so that making check marks on the log sheet does not become a cavalier action or something which only gets done “when we get around to it.” One possible means of impressing the importance on ancillary department personnel is to perform frequent surprise audits in the early days after conversion to an inclusive charge system.

Care must be exercised in the ancillary departments and billing office to insure that all handling of charge sheets formerly necessary but superfluous under an inclusive rate system is eliminated. Such items as recording specific charges on the charge sheet, posting to patient accounts, creation of itemized bills, etc., must be eliminated.

Of course, savings will only result from an inclusive rate if there are changes in hospital expense. Naturally, personnel policies are the function of each institution. However, at the very least, the savings inherent in the inclusive rate concept should be realized through attrition, if not through direct reduction of payroll.

Finally, the individual institution should be sure that all of the possible benefits are realized by setting new standards appropriate to the inclusive rate system. These would include standards for number of clerks in the billing office, lag time from discharge to preparation of bill, level of accounts receivable, man-hours spent in preparation of charges, and amount of time spent in final settlement with cost reimbursers.

Utilization Review

As a final step in converting to inclusive rates, some enhanced method of utilization review should be instituted.

Recent literature is replete with attempts to define and redefine utilization review. It is apparent that although the general concept of utilization review existed in the 1950’s, its actual practice was exceedingly limited until the enactment of Public Law 89-97 (the Medicare legislation). This legislation provided the impetus for the actual development and exercise of this function within the health care community.

Until this time, the function of utilization review had been retrospective study of broad patterns of utilization of the facility and its resources. This function was intended to serve mainly an educational purpose. Title XVIII added a new concept—current review of individual long-stay cases. To comply with the new law, a second function had to be served by the UR mechanism—this was the review of individual case records to determine the medical necessity for hospital or other facility care of extended duration.

Specific action was dictated by the exercise of this second function, whereas this had not been the case with the other retrospective studies. Compliance with the law was more easily measurable in terms of performance of this second function. The natural result was that the vast majority of the work of medical staff UR committees would be expended on the necessary review of individual long-term case records. This is generally acknowledged to be the case throughout the country today; and recent literature has emphasized the inadequacy of this state of affairs.[1,2,3,4] These authors have emphasized that the central problem in utilization review must be the description of broad patterns of patient care and resource utilization and understanding of variations in these patterns in both time and place.

It is worthwhile to ask what purposes are served by exercising the function of utilization review. Certainly there is an obvious enhancement of the educational process for the medical and paramedical hospital staffs involved. It is equally clear that the intent of the Medicare legislation was to effect some control of utilization.

In any event, the ways in which existing mechanisms control overutilization, we suggest, have been transient in duration and very limited in scope.[5,6] There are very good reasons for this. Any new program aimed at control of utilization will achieve more success initially. After its newness wears off, there is a natural tendency to lapse back into old, well established habit patterns, and as a result lasting change is difficult to achieve. Additionally, the fact that the majority of utilization review efforts have been directed at a small sub-group of the total hospital population tends to sharply limit the total number of cases in which a measurable change is likely to be effected.

We further suggest that any control effected by utilization review is independent of the billing system. Recent literature cites "rapidly rising hospital costs" and concern over efficient use of the public "health care dollar"; but nowhere does one find reference to attempts to control specific costs or itemized charges. Additionally, the administrators and physicians interviewed during our study (including UR committee members and attending staff members) confined their attention to the general problem of facility utilization rather than any specific cost or charge item. We therefore conclude that the efforts of utilization review which have been directed at control of resource utilization have not depended on the existence of itemized charges for hospital care.

There is nothing inherent in the inclusive rate billing system which would make control of utilization any more effective than it has been in the past; conversely, we do not feel that inclusive rates per se would make utilization control any less effective.

Existing mechanisms in utilization review *may* be enhanced by minor technical modifications. But while there is concern about the overall problem of hospital utilization, the primary concern about inclusive rates specifically is that utilization of hospital ancillary services might rise dramatically.

The primary emphasis of most current utilization review effort has been reducing the mean length of stay in the hospital. It can be argued that to the degree that this effort is successful, and in-patient facility utilization becomes more "efficient", ancillary utilization per patient per unit time must increase. We must, therefore, turn to ancillary utilization per admission as an index of control. This, however, is subject to systematic changes over time (generally in the upward direction) because of technological advances and increasing public sophistication and demand for more available services. However, the data presented previously from two hospitals which recently converted to inclusive rate systems suggest that these indices of ancillary utilization do not increase out of proportion to other hospital costs.

With a minimum of clerical tabulation, a utilization review department could establish average length of patient stay by doctor, and ancillary utilization per admission by doctor. This information would be subject to peer review; and any incidents of overutilization would be determined by comparison with doctors within the same specialty practice. A given doctor whose utilization practices were out of line with those of other doctors engaged in similar practice would then be called upon to justify his entire hospital practice rather than just one individual patient. He might be more effectively reeducated in this way as to his differences from the prevailing practice in the area.

Further comparison can be made between hospitals in a region and between hospital practices in different regions—allowing integration of advances on a national scale.

A second modification involves the preparation of routine narrative discharge summaries for all patients. The individual attending physician is uniquely qualified to review the individual case records of his own patients, and, in so doing, reviews his own professional activities. It is then apparent to him which of the diagnostic and therapeutic procedures he ordered were beneficial to the patient and which were not. The physician's medical training conditions a profound personal commitment to the individual patient. In attempting to provide the best medical care for each individual, it is sometimes difficult to exercise restraint. By reviewing every case record, the pattern of successes and limited returns emerges for each physician. Identification of areas of limited return may then serve as an impetus for improved self-direction.

An additional benefit of the preparation of narrative summaries is to the third party payer, or fiscal intermediary. These groups would not only be able to review claims more adequately, but would then be able to collect a substantial data base for description of overall patterns of patient care in a region, variations in these patterns over time, and comparison between different regions.

We conclude that action in the directions outlined will successfully redirect review efforts toward the mean of the patient population distribution rather than toward a small sub-group at one extreme of the spectrum. Control of resource utilization can be facilitated by means of reeducating the group responsible for directing and dispensing of those resources to the public.

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Appendix 1

APPLICATION OF INCLUSIVE RATES TO THE OUTPATIENT DEPARTMENT

APPLICATION OF INCLUSIVE RATES TO THE OUTPATIENT DEPARTMENT

The implementation of inclusive charging in the outpatient department—in the form of a flat fee per visit—is theoretically feasible. And the subject is a relevant one, as indicated by the cost of outpatient accounting in the seven study hospitals in Chapter Two ($613,191, versus $1,097,808 for inpatient accounting). But it is less obvious whether inclusive rates would result in proportionate cost savings, since the number of itemized charges per episode is not nearly as great as with inpatient care.

To address the issue of outpatient charging, the study methods and analysis outlined in Chapters One through Three for inpatient billing were applied to the outpatient departments.

COST REDUCTION POTENTIAL

In the cost analysis phase, the outpatient accounting process was stratified into the same set of five functional areas as used in Chapter Two. (See "Major Patient Accounting Procedures", Appendix 3, Part B. Detailed application of that methodology to outpatient activities is shown in Appendix 3, Part F.) Present costs of outpatient accounting for the seven study hospitals are shown in Exhibit 39; details for each individual hospital appear in Appendix 3, Part G.

The results show that, as with inpatient charging, the cost reduction potential of inclusive rates is dependent on the level of complexity of the data gathering system required by hospital management. Reduction potentials for each of the data systems described in Chapter Two are summarized in Exhibit 40.

- Statistical Level 1 offers the highest cost savings potential ($131,900) at about 20 percent of present outpatient accounting expenditures.
- Levels 2 and 3 savings are less, 17 and 11 percent respectively, because of higher compensating costs for gathering and categorizing more detailed patient and utilization data.

EXHIBIT 39a

PRESENT ANNUAL COST OF OUTPATIENT ACCOUNTING AND RELATED ACTIVITIES UNDER ITEMIZED CHARGING SYSTEM

	BUSINESS OFFICE		ANCILLARY DEPTS.			Total	
Study Hospital	Equivalent Full-Time Personnel	Manpower Cost %	Equivalent Full-Time Personnel	Manpower Cost %	EDP Service Cost %	Manpower & EDP Service Cost (%)	Cost per OPD Visit
Amesbury	1.7	$ 8,407 (91)	.1	$ 865 (9)	—	$ 9,272 (100)	$1.96
Doctor's	3.6	22,852 (99)	.1	395 (1)	—	23,247 (100)	4.08
Somerville	8.5	57,674 (92)	.6	4,882 (8)	—	62,556 (100)	1.10
Marlboro	8.9	52,798 (86)	.7	5,790 (9)	3,032 (5)	61,620 (100)	1.56
Quincy	14.9	100,649 (97)	.5	3,460 (3)	—	104,109 (100)	3.19
New England Deaconness	4.2	30,058 (73)	.5	3,602 (9)	7,590 (18)	41,250 (100)	3.66
Massachusetts General	38.5	246,762 (79)	2.9	19,811 (6)	44,564 (15)	311,137 (100)	.87
TOTALS	80.3	$519,200 (85%)	5.4	$38,805 (6%)	$55,186 (9%)	$613,191 (100%)	$1.20 (average)

EXHIBIT 39b

PRESENT COST OF OUTPATIENT ACCOUNTING FOR SEVEN STUDY HOSPITALS

	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. Service	Total Cost
Major Function	F.T.E.*	Cost	F.T.E.*	Cost	Cost	(% of Total)
Financial Admission	10.7	$ 65,456	–	–	–	$ 65,456 11%
In-Hospital Control	7.4	47,814	1.5	$10,506	$ 7,718	66,038 11%
Billing	30.2	197,005	–	–	28,507	225,512 36%
Follow-up and Collection	29.4	192,958	–	–	14,658	207,616 34%
Related Financial and Statistical Aspects	2.6	15,967	3.9	28,299	4,303	48,569 8%
TOTAL	80.3	$519,200 85%	5.4	$38,805 6%	$55,186 9%	$613,191 100%

*F.T.E. = Full-Time Equivalent Employees

EXHIBIT 40

COMPARISON OF OUTPATIENT ACCOUNTING MANPOWER AND EDP SERVICE COSTS AND % REDUCTION UNDER EACH ALTERNATIVE SYSTEM

	PRESENT	LEVEL 1		LEVEL 2		LEVEL 3	
HOSPITALS	Operating Cost	Operating Cost	% Reduction	Operating Cost	% Reduction	Operating Cost	% Reduction
Amesbury	$ 9,272	$ 7,720	16.7	$ 7,804	15.8	$ 8,595	7.3
Doctors'	23,247	15,011	35.4	15,141	34.9	17,050	26.7
Somerville	62,556	44,092	29.5	44,750	28.5	51,467	17.7
Marlboro	61,620	52,398	15.0	53,386	13.4	57,696	6.4
New England Deaconess	41,250	31,762	23.0	33,067	19.8	33,797	18.1
Quincy City	104,109	83,762	19.5	85,112	18.3	94,337	9.4
Massachusetts General	311,137	253,394	18.6	268,326	13.8	280,679	9.9
TOTAL	$613,191	$488,139	20.4	$507,586	17.2	$543,621	11.3
TOTAL REDUCTION		$131,943		$107,741		$ 70,857	

EXHIBIT 40 (Continued)

OUTPATIENT REDUCTIONS

	Level 1	Level 2	Level 3
Total annual potential reduction	$131,943	$107,741	$70,857
% of present outpatient accounting operating costs	20%	17%	11%
$ of total hospital operating costs	.15%	.13%	.08%
Cost reduction per clinic visit	$ .26	$ .21	$ .14

As was true of inpatient accounting, the cost reductions in the outpatient department were a function primarily of the elimination of itemized patient service charges. Details of those savings by function in general appear in Appendix 3, Part H, and a breakdown of cost data from one of the seven study hospitals under each of the statistical levels is reported in Part I.

FEASIBILITY

Discussion with administrators at the inclusive rate hospitals who participated in this study reinforced the conclusions that the extension of inclusive charging to the outpatient department could produce tangible cost saving. Significantly, however, all of these hospitals who presently charge inpatients on an inclusive basis continue itemized charging for outpatient services.

Several factors contribute to this, and are germane to assessing feasibility in general.

– The potential variance (using either relative scale or charges on an index) in outpatient service rendered per visit is far greater than the variance in ancillary usage per inpatient day, or per inpatient type. The range in the outpatient department can encompass everything from a simple dispensary function to a full GI Series with accompanying lab tests.

– These variances might be mitigated by the averaging effect across a broad insurance population. Insurance coverage for outpatient services, however, is substantially lower than for inpatient—as a gross estimate, less than half of the population has substantial coverage for outpatient visits.

From these observations The Boston Consulting Group concludes that any hospital instituting inclusive rates in the outpatient department would encounter strong negative reactions from both patients and payers.

In addition, we anticipate a degree of financial and medical risk. Many outpatient visits are made for specific, predetermined purposes. An institution with inclusive rates would thus be subject to selective usage, i.e., anyone requiring an expensive procedure or set of procedures would use that institution. It would not otherwise be used. It should be noted that in its outpatient department hospitals compete with private physicians' offices and the commercial labs which serve them. Even if all hospitals in a region adopted inclusive rates, they would be underpriced by physicians' offices on selected procedures.

For those patients who have no source of care available other than the outpatient department, the comparatively high inclusive rate might serve as a deterrant to seeking medical care for all but the most serious needs. This, of course, would have a serious impact on the pattern of medical care delivered. There might be a serious quality loss through lack of care. Alternatively, high prices for outpatient services might increase hospital admissions because of the incentive provided by insurance coverage.

CONCLUSIONS

Inclusive rates as generally defined are not applicable to outpatient services given the present level of insurance coverage. At the same time, there are meaningful cost savings available through the simplification of the outpatient accounting procedure. A detailed analysis of the cost study information reveals that most of these savings occur through the elimination of charge slips and postings to individual patient accounts. A major reduction in this activity could come close to achieving the savings of an inclusive rate since the degree of simplification would be comparable.

Tentative Design of Alternate System

An alternative to the inclusive rate which might produce a comparable reduction in charge slip and posting activity, if feasible, would be a logical companion to an inclusive rate and could best be implemented at the same time that an inclusive rate was being initiated in a hospital since the changeover requirements would probably be similar.

The Boston Consulting Group is presently developing a systems design which we believe would satisfy the requirements in outpatient operations of reflecting the appropriate cost level to each individual patient while at the same time being so administratively simple as to permit savings of an inclusive rate. The basic concept of this system is that of a "more inclusive rate". It would involve a major reduction in the number of different charges possible in an outpatient setting by grouping procedures according to category. Each category would have a unit point value which could be easily summed. This unit point value would be multiplied by a whole dollar amount to produce a fee.

EXHIBIT 41

SIMPLIFIED OUTPATIENT CHARGING

COMBINATION ORDER FORM AND PATIENT BILL SCHEMATIC

CATEGORY 1 PROCEDURES
(1 unit point each)

☐ xxxxxx
☑ xxxxxx
☐ xxxxxx
☐ xxxxxx

CATEGORY 2 PROCEDURES
(2 unit points each)

☐ xxxxxx
☐ xxxxxx
☐ xxxxxx
☐ xxxxxxx

CATEGORY 3 PROCEDURES
(3 unit points each)

☐ xxxxxx
☐ xxxxxx
☐ xxxxxxx
☐ xxxxxxx

• • •

CATEGORY 4 PROCEDURES
(7 unit points each)

☑ xxxxxxx
☐ xxxxxxx

Procedure Points	8
Visit Charge	2
Total Points	10
x $5 point fee	$50

Such a system could be easily operated on a manual basis. The basic source document would be the physician's order form which would contain on one page all of the services ordered. This would then serve as the basis for creating a bill and would eliminate the need for sorting charge slips by patient name. A clerk could simply sum up the number of procedure points on this one document, do a simple multiplication, and arrive at a bill. A sample is shown in Exhibit 41.

The use of this system would further simplify the accounting office operation since it would be possible to develop a bill with sufficient speed that self-pay patients could pay at time of service, thus eliminating any follow-up requirements.

A more detailed design of this system is presently in progress and will be reported on separately.

Appendix 2

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BIBLIOGRAPHY

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Cahal, Mac F. "Inclusive Hospital Rates: An Analysis." *Ohio State Medical Journal* 37 (1941): 1199-1202.

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This article relates the beginning of an inclusive system in Cleveland where inclusive billing has been in continuous use for almost 40 years. Mr. Mannix discusses the acceptance of IR by the public and relates the specifics of the plan Cleveland uses. Advantages of an inclusive billing system are also discussed.

Mannix, John R. "Reimbursing the Hospital – Inclusive Rate Basis." Paper presented at the National Forum on Hospital and Health Affairs, Duke University, May 17, 1968.

Excellent paper arguing for the acceptance of an all inclusive charging system. Mr. Mannix discusses the history of reimbursement, and, specifically, the history of IR systems in the University Hospitals of Cleveland. He argues that publically IR has been well accepted. During the past 30 years there has been extensive adoption of the inclusive rate system by third party payers, including Blue Cross and the government.

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Appendix 3

PART A

PROFILES OF STUDY HOSPITALS

DETAILS OF THE MASSACHUSETTS HOSPITAL ASSOCIATION COST STUDY

Part A – Profiles of Study Hospitals

Part B – Major Patient Accounting Procedures Under Itemized Charging Systems

Part C – Manpower Cost Analysis for Sample Study Hospital: Inpatient Accounting – Present System

Part D – Present Inpatient Accounting Cost By Hospital

Part E – Manpower Cost Analysis for Sample Study Hospital: Inpatient Accounting – Inclusive Rate Systems

Part F – Manpower Cost Analysis for Sample Study Hospital: Outpatient Accounting – Present System

Part G – Present Outpatient Accounting Cost By Hospital

Part H – Details of Outpatient Savings Under Alternate Inclusive Rate Levels

Part I – Manpower Cost Analysis for Sample Study Hospital: Outpatient Accounting – Inclusive Rate Systems

PROFILES OF STUDY HOSPITALS

AMESBURY HOSPITAL
Morrill Place
Amesbury, Mass. 01913

ROBERT PONTICELLI
Administrator

Designation: Municipal, non-profit, short-term general hospital - 59 beds
Other Facilities: None

A small rural community hospital, Amesbury is situated approximately 50 miles north of Boston. Its service population is the town of Amesbury (11,000) and the surrounding district. Because of its proximity to the New Hampshire state line, the hospital also services a number of patients from this state. The population serviced is predominantly white middle class.

Services available are necessarily limited by the size of the hospital. There is no maternity unit, and outpatient services are provided only to private ambulatory patients. The hospital has no professional educational programs or affiliations.

DOCTOR'S HOSPITAL
107 Lincoln Street
Worcester, Mass. 01605

STEPHEN N. HILL
Superintendent

Designation: Proprietary, short-term general hospital - 121 beds
Other Facilities: None

Situated in Worcester, approximately 55 miles west of Boston, Doctor's Hospital receives 80 percent of its admissions from the city, the rest coming from the surrounding county. The patients appear to be a cross-section of the community with no unusual demographic tendencies.

Routine services including maternity are available. Patients requiring acute care or major surgery are usually referred to the larger Worcester hospitals. Outpatient services are provided only to private ambulatory patients. There are no professionsl educational affiliations.

SOMERVILLE HOSPITAL
230 Highland Avenue
Somerville, Mass. 02143

NORMAND E. GIRARD
Administrator

Designation: **Non-government, non-profit, short-term general hospital - 148 beds**
Other Facilities: **Mystic Health Centre (ambulatory), Somerville**

Somerville Hospital is situated in the town of Somerville, being in the Greater Boston "core city" and the most densely populated town in New England. The hospital is small and currently inadequate for the health needs of the community it serves, though construction of expanded facilities is now under way. The service population is primarily the 85,000 residents of the city which is predominantly white, low income, low educational status community.

The hospital has its own three-year RN diploma school and associates with a local university in radiological technicians education. It has, however, no medical school association or medical educational programs. Services are typical for a hospital this size and include a maternity and pediatric unit. The hospital has extensive private ambulatory and emergency room activity, the latter being the seventh busiest in the Boston area. With the exception of a pre-natal clinic for maternity patients, no clinics are provided within the hospital.

MARLBOROUGH HOSPITAL
57 Union Street
Marlborough, Mass. 01752

JOSEPH L. FALETRA
Administrator

Designation: **Non-government, non-profit, short-term general hospital - 150 beds**
Other Facilities: None

Marlborough Hospital is situated 40 miles west of Boston and 20 miles northeast of Worcester. The service population is that of Marlborough (27,000), and nearby Hudson (16,000), and seven other smaller communities in the general area.

The population is predominantly white middle class and the city is experiencing rapid growth in the younger age groups. The hospital provides services typical for its size including a maternity unit. Patients requiring major surgery or acute care are likely to be referred to the larger hospitals in Boston or Worcester.

The hospital provides clinical practice facilities for the nursing students of a hospital diploma school and a community college in the area. Outpatient activity consists of private ambulatory and emergency room services. No scheduled clinics are held.

NEW ENGLAND DEACONESS HOSPITAL
185 Pilgrim Road
Boston, Mass. 02215

ROBERT D. LOWRY
Executive Vice-President
RICHARD E. LEE
Director

Designation: Non-government, non-profit, short-term general hospital - 360 beds
Other Facilities: None

NEDH is a teaching hospital affiliated with the Harvard Medical School. Though situated in Boston and close to major residential areas, it is not considered a community hospital. Its primary service population resides in the Boston Metropolitan area. Major sources of referrals are the Joslin Diabetic, Overholt Thoracic, and Lahey Clinics. Through its association with the former, the hospital has an international reputation in the treatment of diabetics which occasions a substantial number of out-of-state admissions. There is no maternity service.

In addition to its medical school affiliation, NEDH has its own three-year RN diploma school and is affiliated with two local universities in providing clinical practice for RN baccalaureate students. Outpatient services are primarily for private ambulatory patients, though a small number of patients are treated on an ambulatory basis within the teaching service.

QUINCY CITY HOSPITAL
114 Whitwell Street
Quincy, Mass. 02169

HARLAN L. PAINE, JR.
Director

Designation: Municipal, non-profit, short-term general hospital - 383 beds
Other Facilities: None

The Hospital is situated in the city of Quincy approximately 10 miles south of Boston. Quincy has traditionally been a manufacturing city with a large blue collar population, though in recent years there has been a trend towards becoming a dormitory town of Boston. Some 65% of hospital admissions come from the city of Quincy and the remainder primarily from the surrounding communities. Surgical residents from Boston City Hospital spend part of their residency at Quincy on a rotational basis. The hospital has its own three-year RN diploma school. All routine services including maternity are provided. Outpatient services include private ambulatory, emergency room, and scheduled ambulatory clinics.

MASSACHUSETTS GENERAL HOSPITAL
32 Fruit Street
Boston, Mass. 02114

JOHN J. KNOWLES, M.D.
General Director
ELLSWORTH T. NEUMANN, M.D.
Administrator

Designation: **Non-government, non-profit, short-term general hospital - 1064 beds**
Other Facilities: **McLean Hospital (Psychiatric), Belmont; Storrow House (Extended Care), Lincoln; Bunker Hill Health Centre (Ambulatory), Charlestown; Medical Station, Logan Airport, Boston**

The major teaching hospital associated with the Harvard Medical School, MGH is situated on the Charles River close to the Beacon Hill section of Boston. The hospital draws 75% of its patients from the Boston Metropolitan area, but its national reputation occasions a considerable number of out-of-state referrals. In addition to its medical school association, the hospital has a three-year RN diploma school and is associated with three local universities in RN graduate and undergraduate education.

In conjunction with the Massachusetts Eye & Ear Infirmary to which it is physically connected by a common clinics building, MGH provides a complete range of health services with the exception of maternity. The hospital provides a number of services to the nearby Shriners Burns Hospital. Outpatient ambulatory services include clinics, private ambulatory and emergency room, the latter accounting for some 35% of hospital admissions. Research programs in the hospital occupy 12-15% of available space and employ 1000 personnel in addition to hospital personnel numbering 5,500.

Appendix 3

PART B

MAJOR PATIENT ACCOUNTING PROCEDURES UNDER ITEMIZED CHARGING SYSTEMS

MAJOR PATIENT ACCOUNTING PROCEDURES UNDER ITEMIZED CHARGING SYSTEMS

FINANCIAL ADMISSION

1. Initiation of Patient Account	Activities involved in creating a financial record of an admission. Includes preparation of ledger card, financial interview if applicable. Does not include activities related to medical record information, census reporting, or hospital statistical data gathering.
2. Credit Screening	Process of determining credit worthiness of patient or other person responsible for bill. Includes record searches, credit bureau inquiries and appropriate action.

IN-HOSPITAL CONTROL

3. Prepare Charge Card	Preparation of a card or slip solely for charging purposes. Does not apply when the charge card is a carbon copy of original requisition for service.
4. Charging Out Requisition	Assignment of a charge to a requisition. May include coding of service or procedure. Does not apply when procedure charges are stored in automatic computer equipment. An alternative to (3) above.
5. Matching Charge With Account	Filing of charge cards with appropriate account until such time as the charge can be recorded on the ledger. Applies to automated systems when account details are not stored in computer "memory".
6. Prepare Ledgers for Posting and Refile	Retrieval of ledgers and charge cards from file, collation of like charges, and return of ledger to file after posting. Does not apply to automated systems.
7. Posting Charges to Account (Processing charges to accounts under EDP systems)	Recording of charges on appropriate ledgers. Under automated systems, involves inputing cards to files or collating charge cards with account cards.

8. Associated Posting Tasks	A verification of posted amounts, collation and filing of charge cards, preparation of charge listing, etc., where applicable.
9. Calculate Room and Board Charge	Determination of charge for room and board and posting to ledger.
10. Interim Billing (Underwriter)	Preparation and submission of a statement of account (to date of billing) to underwriter. Includes insurance verification and allowance for rejections. Charges itemized or summarized by categories as required by underwriter.
11. Interim Billing (Patient)	Preparation and submission of a statement of account to patient (or family) at specific intervals prior to discharge. Though computed from individual charges, not normally an itemized bill.
12. Discharge Statements	Preparation of a statement of account balance at time of discharge for presentation to patient at that time. May or may not be itemized.
13. Discharge Interview	Interview with patient at time of discharge to discuss financial arrangements for paying bill.

INITIAL BILLING

14. Initial Billing (Underwriter)	Preparation of a full statement of account for submission to responsible third parties. Includes verification of coverage, summarization of charges by category and/or itemization as required. Also allows for rejections, resubmissions, preparation of drafts, etc.
15. Initial Billing (Self-Pay)	Preparation of a statement of account for submission to patient (or family). May actually be a second statement in the case of deductible or indemnity insurance.

FOLLOW-UP AND COLLECTION

16. Follow-up Billing	Submission of statements of account to responsible parties after initial billing. Statement normally shows only account balance and prior payment activity.
17. Send Legal Letter	Notification to responsible parties that the account balance is overdue and will be referred to attorney for collection. Generally occurs after a specified number of follow-up bills have been sent.
18. Telephone Expedite	Hospital initiated contact with responsible party to expedite collection of balance.
19. Refer Accounts to Collection	Transfer of responsibility for collection of account to external agency.
20. Write-Off Accounts to Bad Debts	Definition of account as uncollectible and assignment to bad debts account.
21. Post Payments to Receipts Journal	Recording of collection to cash receipts journal. Includes preparation of receipt where applicable (usually cash payments) and calculation of balance.
22. Post Payments to Accounts	Recording of payments and balance of account on patient ledger. Includes posting of contractual losses where applicable.
23. Cash Distribution	Analysis of cash receipts by source, e.g., Blue Cross, Medicare, etc.
24. Bank Deposit	Preparation of bank deposit from receipts. Includes checking and reconciliation but not depositing.
25. Telephone Queries – Charges	Telephone calls originating from outside the hospital concerning a specific charge or charges.
25a. Telephone Queries – Other	Telephone calls originating from outside the hospital concerning any other aspect of a patient's bill.

26. Receivables Analysis	Maintenance of accounts receivable by class of payer (e.g. Commercial Insurance, Medicaid, etc.)
27. Trial Balance	Analysis of receivables by individual account balance. May be done daily under EDP systems.
28. Receivables Aging, Aged Trial Balance	Same as (27) showing individual accounts by age. (Over 30, 90, 120 days, etc.).

RELATED FINANCIAL AND STATISTICAL ASPECTS

29. Income Distribution	Analysis of income by departments or revenue centers from charge data. Includes all checking, reconciliations, etc. Under EDP systems, normally prepared as a by-product of processing charges to accounts (See (8) above).
30. Medicare Income Distribution	Analysis similar to Income Distribution, for Medicare patients only.
31. Departmental Logs and Workload Statistics	Departmental or computer maintenance of records of procedures. Includes log books, spread sheets, and periodical summaries and reports.

Appendix 3

PART C

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL INPATIENT ACCOUNTING – PRESENT SYSTEM

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
INPATIENT ACCOUNTING – PRESENT SYSTEM

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Cashier	4,623	3.70	285	$3.14	$ 895	$1,974
Initiation of Maternity Account	Cashier	763	7.50	95	3.14	298	658
FUNCTION TOTALS				380		1,193	2,632
IN-HOUSE CONTROL							
Charge Out Requisition	Ancil. Dept. Staff	172,528	*	362	*	1,364	1,605
Match Charges with Account	Billing Clerk	177,914	.14	415	3.14	1,303	2,876
Prepare Ledgers for Posting & Refile	Posting Clerk	48,579	.50	486	3.14	1,526	3,368
Post Charges to Account	Posting Clerk	177,914	.12	356	3.14	1,118	2,467
Associated Posting Tasks	Billing Clerk	250	24.90	104	3.14	327	722
Calculate Total Rm. & Board Charge	Billing Clerk	5,386	.75	67	3.14	210	463
Discharge Patient	Cashier	5,386	3.25	292	3.14	917	2,024
FUNCTION TOTALS				2,082		6,765	13,525
BILLING							
Blue Cross	Sr. Billing Clerk	1,804	20.50	616	3.35	2,064	4,556
Medicare/Medex	Billing Clerk	1,188	17.31	343	3.14	1,077	2,377
Medicaid	Billing Clerk	1,454	12.85	311	3.14	977	2,156
Comm. Ins.	Billing Clerk	1,225	10.55	215	3.14	675	1,490
Veterans	Billing Clerk	40	180.00	129	3.14	377	832
Self Pay	Billing Clerk	1,881	3.70	116	3.14	364	803
FUNCTION TOTALS				1,721		$5,534	$12,214

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FOLLOW-UP AND COLLECTION							
Follow-up & Status Bills	Billing Clerk	3,009	1.75	88	$3.14	$ 276	$ 609
Send Legal Letter	Sr. Billing Clerk	1,402	1.90	44	3.35	147	324
Telephone Expedite	Sr. Billing Clerk	1,334	5.00	111	3.35	372	821
Refer Account to Collection	Credit Manager	1,271	2.20	47	4.42	208	459
Write Off to Bad Debt	Credit Manager	706	2.20	26	4.42	115	254
Telephone Queries	Billing Clerk						
– Charges		556	2.50	23	3.14	72	159
– Other		9,527	2.50	397	3.14	1,247	2,753
Post Payments to Receipts Journal	Cashier						
– Cash		1,370	3.10	71	3.14	223	492
– Check		4,390	2.60	190	3.14	597	1,318
Post Credits to Accounts:	Posting Clerk						
– Check/Cash		4,375	.30	22	3.14	69	152
– Drafts		4,426	.66	48	3.14	151	333
– Jr. Credits		302	.25	2	3.14	6	13
Cash Distribution	Cashier	250	10.00	42	3.14	132	291
Bank Deposit	B.O. Mgr.	250	23.25	97	4.42	429	947
FUNCTION TOTALS				1,208		4,044	8,925
RELATED FINANCIAL AND STATISTICAL ASPECTS							
Allocation of Accounts to Receivables	Billing Clerk	4,600	.40	31	3.14	97	214
Adjustments of Receivables	Billing Clerk	5,760	.40	38	3.14	119	263
Income Distribution	Billing Clerk	250	89.00	371	3.14	1,165	2,571
Workload Stats. & Dept. Log	Ancil. Dept. Staff	*	*	995	*	3,697	4,348
Medicare Income Distribution	Billing Clerk	1,188	4.50	89	3.14	280	618
FUNCTION TOTALS				1,524		5,358	8,014
TOTAL				6,915		$22,894	$45,310

Appendix 3

PART D

PRESENT INPATIENT ACCOUNTING COST BY HOSPITAL

PRESENT COST OF INPATIENT ACCOUNTING FOR AMESBURY HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE		ANCILLARY DEPTS.		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.1	$ 558	–	–	–	$ 558 4%
IN-HOSPITAL CONTROL	.7	3,452	–	–	–	3,452 25%
BILLING	.7	3,701	–	–	–	3,701 27%
FOLLOW-UP AND COLLECTION	.5	2,205	–	–	–	2,205 16%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.3	1,126	.3	$ 2,809	–	3,935 28%
TOTAL	2.3	$ 11,042 80%	.3	$ 2,809 20%	–	$ 13,851 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:
A totally manual system is employed by the hospital. All requisitions are charged out in the Business Office and manually posted to patient ledgers. Related activities include a number of analyses performed on behalf of the medical staff.

PRESENT COST OF INPATIENT ACCOUNTING FOR DOCTORS' HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE		ANCILLARY DEPTS.		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.4	$ 5,492	–	–	–	$ 5,492 9%
IN-HOSPITAL CONTROL	3.1	18,860	.3	$ 1,651	–	20,511 34%
BILLING	2.1	14,266	–	–	–	14,266 24%
FOLLOW-UP AND COLLECTION	2.1	13,999	–	–	–	13,999 23%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.3	1,791	.5	3,881	–	5,672 10%
TOTAL	8.0	$ 54,408 91%	.8	$ 5,532 9%	–	$ 59,940 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:
A manual system, with all requisitions charged out centrally in the Business Office. A number of departments are required to prepare a charge card separately from the original requisition for service.

A non-comprehensive room and board rate results in an inordinately high number of charges.

The large number of alternative follow-up bills, and the length of the active follow-up period, results in a relatively high expenditure for this function.

PRESENT COST OF INPATIENT ACCOUNTING FOR SOMERVILLE HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE		ANCILLARY DEPTS.		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.4	$ 2,632	–	–	–	$ 2,632 6%
IN-HOSPITAL CONTROL	1.6	11,920	.2	$ 1,605	–	13,525 30%
BILLING	1.9	12,214	–	–	–	12,214 27%
FOLLOW-UP AND COLLECTION	1.1	8,925	–	–	–	8,925 19%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.5	3,665	.6	$ 4,349	–	8,014 18%
TOTAL	5.5	$ 39,356 87%	.8	$ 5,954 13%	–	$ 45,310 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:

A manual system with a posting machine in use. Apart from the maintenance of a separate room and board ledger, there are no unusual operating characteristics.

PRESENT COST OF INPATIENT ACCOUNTING FOR MARLBOROUGH HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	1.0	$ 6,210	–	–	–	$ 6,210 8%
IN-HOSPITAL CONTROL	2.6	16,551	.2	$ 1,551	$ 1,421	19,523 27%
BILLING	3.0	18,765	–	–	–	18,765 25%
FOLLOW-UP AND COLLECTION	2.7	15,434	–	–	–	15,434 21%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.1	652	1.4	11,791	1,548	13,991 19%
TOTAL	9.4	$ 57,612 78%	1.6	$ 13,342 18%	$ 2,969 4%	$ 73,923 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:
A partially automated system consisting of punched card processing equipment with limited memory capability is used extensively in processing charges and financial analysis. Charges are priced and posted automatically by this equipment.

The hospital has a strict credit screening policy for all admissions and engages in interim patient billing weekly.

PRESENT COST OF INPATIENT ACCOUNTING FOR NEW ENGLAND DEACONESS HOSPITAL

MANPOWER	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.9	$ 6,783	–	–	–	$ 6,783 5%
IN-HOSPITAL CONTROL	2.0	13,329	.4	$ 2,738	$ 15,828	31,895 22%
BILLING	5.8	42,903	–	–	5,095	47,998 34%
FOLLOW-UP AND COLLECTION	2.9	20,979	–	–	12,015	32,994 23%
RELATED FINANCIAL AND STATISTICAL ASPECTS	–	–	2.3	17,998	4,276	22,274 16%
TOTAL	11.6	$ 83,994 59%	2.7	$ 20,736 15%	$ 37,214 26%	$141,944 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:
An in-hospital IBM-360-30 computer system is used for all patient accounting. All accounts are held in memory and requisitions are priced and posted automatically.

The patient accounting and admitting functions are integrated into a single department and the person responsible for processing an admission is also required to process the patient's bills.

Departmental statistics and financial analyses are prepared by the computer as a by-product of charge processing. Cost-based workload point values are presently used for departmental statistics.

PRESENT COST OF INPATIENT ACCOUNTING FOR QUINCY CITY HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	1.0	$ 7,058	–	–	$ 1,134	$ 8,192 4%
IN-HOSPITAL CONTROL	1.8	12,582	1.0	$ 8,008	34,930	55,520 29%
BILLING	4.7	31,429	–	–	14,767	46,196 24%
FOLLOW-UP AND COLLECTION	5.4	38,526	–	–	13,915	52,441 27%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.6	3,763	1.6	14,963	12,040	30,766 16%
TOTAL	13.5	$ 93,358 48%	2.6	$ 22,971 12%	$ 76,786 40%	$193,115 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:
A shared computer service accessed through an "on-line" terminal is used to support the major portion of patient accounting, particularly in the follow-up area. Though the computer center prepares most of the financial analyses, workload statistics are maintained in-hospital by individual departments.

A comparatively high concentration of follow-up activities is the only unusual operating characteristic.

PRESENT COST OF INPATIENT ACCOUNTING FOR MASSACHUSETTS GENERAL HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	7.2	$ 42,229	–	–	–	$ 42,229 7%
IN-HOSPITAL CONTROL	21.1	124,143	1.9	$ 13,788	$ 64,547	202,478 36%
BILLING	13.6	82,474	.7	4,189	8,952	95,615 17%
FOLLOW-UP AND COLLECTION	17.2	104,429	–	–	43,637	148,066 26%
RELATED FINANCIAL AND STATISTICAL ASPECTS	5.6	32,599	5.0	38,951	9,787	81,337 14%
TOTAL	64.7	$385,874 68%	7.6	$ 56,928 10%	$126,923 22%	$569,725 100%

*F.T.E. = Full-Time Equivalent Employees

PERTINENT OPERATING CHARACTERISTICS:
An IBM-360-40 and an IBM 1401 computer are used in all areas of patient accounting in support of the large manual operation. Functional specialization due to size necessitates extensive coordination, control, and communication procedures. Self-pay balances are billed to patients weekly while in hospital.

Requisitions are priced manually by either the departments or the business office and posted by computer. Only in-patient accounts are held in memory. Thus, integrated processing of inpatient and emergency ward charges requires extensive mechanical and computerized sorting and checking procedures.

All related financial and computerized departmental statistical analyses are generated as a by-product of charge necessitated processing activities.

Appendix 3

PART E

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL* INPATIENT ACCOUNTING – INCLUSIVE RATE SYSTEMS

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*Same hospital referenced in Part C.

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
INPATIENT ACCOUNTING – INCLUSIVE RATE LEVEL 1

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Cashier	4,623	2.15	166	$3.14	$ 521	$1,150
Initiation of Maternity Account	Cashier	763	6.80	86	3.14	270	596
FUNCTION TOTALS				252		791	1,746
IN-HOSPITAL CONTROL							
Calculate Bill	Billing Clerk	5,386	.75	67	3.14	210	463
Discharge Patient	Cashier	5,386	2.50	224	–	703	1,552
FUNCTION TOTALS				291		913	2,015
BILLING							
Blue Cross	Sr. Billing Clerk	1,804	14.75	444	3.35	1,487	3,282
Medicare/Medex	Billing Clerk	1,188	12.06	239	3.14	750	1,655
Medicaid	Billing Clerk	1,454	8.60	208	3.14	653	1,441
Comm. Ins.	Billing Clerk	1,225	8.55	175	3.14	550	1,214
Veterans	Billing Clerk	40	14.75	10	3.14	32	71
Self Pay	Billing Clerk	1,881	1.75	55	3.14	173	382
FUNCTION TOTALS				1,131		3,645	8,045

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FOLLOW-UP & COLLECTION							
Follow-up & Status Bills	Billing Clerk	2,849	1.75	83	$3.14	$ 261	$ 576
Send Legal Letter	Sr. Billing Clerk	1,402	1.90	44	3.35	147	324
Telephone Expedite	Sr. Billing Clerk	1,334	5.00	111	3.35	372	821
Refer Account to Collection	Credit Manager	1,271	2.20	47	4.42	208	459
Write Off to Bad Debt	Credit Manager	706	2.20	26	4.42	115	254
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	56	2.50	2	3.14	6	13
– Other	Billing Clerk	8,574	2.50	357	3.14	1,121	2,474
Post Payments to Receipt Journal	Cashier						
– Cash	Cashier	1,370	3.10	71	3.14	223	492
– Check	Cashier	4,390	2.60	190	3.14	597	1,318
Post Credits to Accounts	Posting Clerk						
– Check/Cash	Posting Clk.	4,375	.30	22	3.14	69	152
– Drafts	Posting Clk.	4,426	.66	48	3.14	151	333
– Sr. Credits	Posting Clk.	302	.25	2	3.14	6	13
Cash Distribution	Cashier	250	10.00	42	3.14	132	291
Bank Deposit	B.O. Mgr.	250	23.25	97	4.42	429	947
FUNCTION TOTALS				1,142		3,837	8,468
FINANCIAL & STATISTICAL							
Allocation of Accounts to Receivables	Billing Clerk	4,600	.40	31	$3.14	$ 97	$ 214
Adjustment of Receivables	Billing Clerk	5,760	.40	38	3.14	119	263
Workload Stats. & Dept. Log	Ancil. Dept. Staff	*	*	995	*	3,697	4,349
FUNCTION TOTALS				1,064		3,913	4,826
GRAND TOTAL				3,880		$13,099	$25,100

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
INPATIENT ACCOUNTING – INCLUSIVE RATE LEVEL 2

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Cashier	4,623	2.15	166	$3.14	$ 521	$1,150
Initiation of Maternity Account	Cashier	763	6.80	86	3.14	270	596
FUNCTION TOTALS				252		791	1,746
IN-HOSPITAL CONTROL							
Calculate Bill	Billing Clerk	5,386	.75	67	3.14	210	463
Discharge Patient	Cashier	5,386	2.50	224	–	703	1,552
FUNCTION TOTALS				291		913	2,015
BILLING							
Blue Cross	Sr. Billing Clerk	1,804	14.75	444	3.35	1,487	3,282
Medicare/Medex	Billing Clerk	1,188	12.06	239	3.14	750	1,655
Medicaid	Billing Clerk	1,454	8.60	208	3.14	653	1,441
Comm. Ins.	Billing Clerk	1,225	8.55	175	3.14	550	1,214
Veterans	Billing Clerk	40	14.75	10	3.14	32	71
Self Pay	Billing Clerk	1,881	1.75	55	3.14	173	382
FUNCTION TOTALS				1,131		3,645	8,045

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FOLLOW-UP & COLLECTION							
Follow-up & Status Bills	Billing Clerk	2,849	1.75	83	$3.14	$ 261	$ 576
Send Legal Letter	Sr. Billing Clerk	1,402	1.90	44	3.35	147	324
Telephone Expedite	Sr. Billing Clerk	1,334	5.00	111	3.35	372	821
Refer Account to Collection	Credit Manager	1,271	2.20	47	4.42	208	459
Write Off to Bad Debt	Credit Manager	706	2.20	26	4.42	115	254
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	56	2.50	2	3.14	6	13
– Other	Billing Clerk	8,574	2.50	357	3.14	1,121	2,474
Post Payments to Receipt Journal	Cashier						
– Cash	Cashier	1,370	3.10	71	3.14	223	492
– Check	Cashier	4,390	2.60	190	3.14	597	1,318
Post Credits to Accounts	Posting Clerk						
– Check/Cash	Posting Clk.	4,375	.30	22	3.14	69	152
– Drafts	Posting Clk.	4,426	.66	48	3.14	151	333
– Sr. Credits	Posting Clk.	302	.25	2	3.14	6	13
Cash Distribution	Cashier	250	10.00	42	3.14	132	291
Bank Deposit	B.O. Mgr.	250	23.25	97	4.42	429	947
FUNCTION TOTALS				1,142		3,837	8,468
FINANCIAL & STATISTICAL							
Allocation of Accounts to Receivables	Billing Clerk	4,600	.40	31	$3.14	$ 97	$ 214
Adjustment of Receivables	Billing Clerk	5,760	.40	38	3.14	119	263
Workload Stats. & Dept. Log	Ancil. Dept. Staff	*	*	995	*	3,697	4,349
Assign Points to IR Categories	Ancil. Dept. Staff	*	*	387	*	1,528	1,798
FUNCTION TOTALS				1,451		5,441	6,624
GRAND TOTAL				4,267		$14,627	$26,898

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
INPATIENT ACCOUNTING – INCLUSIVE RATE LEVEL 3

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Cashier	4,623	2.15	166	$3.14	$ 521	$1,150
Initiation of Maternity Account	Cashier	763	6.80	86	3.14	270	596
FUNCTION TOTALS				252		791	1,746
IN-HOSPITAL CONTROL							
Calculate Bill	Billing Clerk	5,386	.75	67	3.14	210	463
Discharge Patient	Cashier	5,386	2.50	224	–	703	1,552
FUNCTION TOTALS				291		913	2,015
BILLING							
Blue Cross	Sr. Billing Clerk	1,804	14.75	444	3.35	1,487	3,282
Medicare/Medex	Billing Clerk	1,188	12.06	239	3.14	750	1,655
Medicaid	Billing Clerk	1,454	8.60	208	3.14	653	1,441
Comm. Ins.	Billing Clerk	1,225	8.55	175	3.14	550	1,214
Veterans	Billing Clerk	40	14.75	10	3.14	32	71
Self Pay	Billing Clerk	1,881	1.75	55	3.14	173	382
FUNCTION TOTALS				1,131		3,645	8,045

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FOLLOW-UP & COLLECTION							
Follow-up & Status Bills	Billing Clerk	2,849	1.75	83	$3.14	$ 261	$ 576
Send Legal Letter	Sr. Billing Clerk	1,402	1.90	44	3.35	147	324
Telephone Expedite	Sr. Billing Clerk	1,334	5.00	111	3.35	372	821
Refer Account to Collection	Credit Manager	1,271	2.20	47	4.42	208	459
Write Off to Bad Debt	Credit Manager	706	2.20	26	4.42	115	254
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	56	2.50	2	3.14	6	13
– Other	Billing Clerk	8,574	2.50	357	3.14	1,121	2,474
Post Payments to Receipt Journal	Cashier						
– Cash	Cashier	1,370	3.10	71	3.14	223	492
– Check	Cashier	4,390	2.60	190	3.14	597	1,318
Post Credits to Accounts	Posting Clerk						
– Check/Cash	Posting Clk.	4,375	.30	22	3.14	69	152
– Drafts	Posting Clk.	4,426	.66	48	3.14	151	333
– Sr. Credits	Posting Clk.	302	.25	2	3.14	6	13
Cash Distribution	Cashier	250	10.00	42	3.14	132	291
Bank Deposit	B.O. Mgr.	250	23.25	97	4.42	429	947
FUNCTION TOTALS				1,142		3,837	8,468

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL & STATISTICAL							
Allocation of Accounts to Receivables	Billing Clerk	4,600	.40	31	$3.14	$ 97	$ 214
Adjustment of Receivables	Billing Clerk	5,760	.40	38	3.14	119	263
Workload Stats. & Dept. Log	Ancil. Dept. Staff	*	*	995	*	3,697	4,349
Record Point Values on Requisitions	Ancil. Dept. Staff	144,814	*	209		826	972
Match Requisitions with Accounts	Billing Clerk	150,478	.14	351	3.14	1,102	2,432
Prepare Cost Distribution by IR Categories	Billing Clerk	5,386	5.50	494	3.14	1,551	3,423
FUNCTION TOTALS				2,118		7,392	11,653
GRAND TOTAL				4,934		$16,578	$31,927

Appendix 3

PART F

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL* OUTPATIENT ACCOUNTING – PRESENT SYSTEM

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* Same hospital referenced in Part C.

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
OUTPATIENT ACCOUNTING – PRESENT SYSTEM

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Clinic Clerk	51,825	1.00	864	$2.99	$2,713	$4,911
FUNCTION TOTALS				864		2,713	4,911
IN-HOUSE CONTROLS							
Charge out Reg.	Dept. Staff	98,168	*	153	*	515	606
Preparing Ledgers For Posting & Refile	Billing Clerk	47,819	1.05	837	3.14	2,628	4,758
Post Charges	Posting Clk.	98,168	.33	540	3.14	1,696	3,070
Associated Posting Tasks	Billing Clerk	250	24.90	140	3.14	326	590
FUNCTION TOTALS				1,670		5,165	9,024
BILLING							
Blue Cross	Sr. Billing Clerk	9,730	4.05	657	3.35	2,200	3,983
Blue Cross Reject	Sr. Billing Clerk	920	4.05	62	3.35	208	377
Medicare	Billing Clerk	3,353	12.90	721	3.14	2,263	4,096
Medicaid	Billing Clerk	13,137	7.50	1,642	3.14	5,156	9,334
Comm. Ins.	Billing Clerk	4,988	10.55	877	3.14	2,754	4,985
Self Pay	Billing Clerk	19,092	2.00	636	3.14	1,997	3,615
Cash Payments	Clinic Clerk	4,006	3.75	250	3.14	786	1,422
FUNCTION TOTALS				4,845		15,364	27,813

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FOLLOW-UP & COLLECTION							
Follow-up & Status	Billing Clerk	22,394	1.75	653	$3.14	$2,050	$3,711
Collection Agency	Sr. Billing Clerk	8,416	2.20	309	3.35	1,035	1,874
Write-Off to Bad Debt	Sr. Billing Clerk	2,711	2.20	99	3.35	332	601
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	250	2.50	10	3.14	33	60
– Other	Billing Clerk	8,500	2.50	354	3.14	1,112	2,013
Post Payments to Receipts Journal	Cashier						
– Cash	Cashier	2,537	3.10	132	3.14	414	749
– Draft/Check	Cashier	7,264	2.60	315	3.14	988	1,789
Post Credits to Accounts:	Posting Clk.						
– Blue Cross/Medicare	Posting Clk.	11,490	.17	33	3.14	102	185
– Other	Posting Clk.	38,500	.30	193	3.14	604	1,093
FUNCTION TOTALS				2,098		6,670	12,075
FINANCIAL & STATISTICAL							
Receivable Analysis	Billing Clerk	47,819	.40	319	3.14	1,002	1,814
Adjust Receivables	Billing Clerk	9,801	.40	65	3.14	204	369
Income Distribution	Billing Clerk	250	96.00	400	3.14	1,256	2,274
Workload Stats. & Dept. Log	Dept. Staff	*	*	884	*	3,635	4,276
FUNCTION TOTALS				1,668		6,097	8,733
GRAND TOTALS				11,145		$36,009	$62,556

Appendix 3

PART G

PRESENT OUTPATIENT ACCOUNTING COST BY HOSPITAL

PRESENT COST OF OUTPATIENT ACCOUNTING FOR AMESBURY HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.6	$ 2,368	–	–	–	$ 2,368 26%
IN-HOSPITAL CONTROL	.0	188	0	$ 35	–	223 2%
BILLING	.6	3,405	–	–	–	3,405 37%
FOLLOW-UP AND COLLECTION	.3	1,768	–	–	–	1,768 19%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.2	678	.1	830	–	1,508 16%
TOTAL	1.7	$ 8,407 91%	.1	$ 865 9%	–	$ 9,272 100%

*F.T.E. = Full-Time Equivalent Employees

PRESENT COST OF OUTPATIENT ACCOUNTING FOR DOCTORS' HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.5	$ 3,119	–	–	–	$ 3,119 14%
IN-HOSPITAL CONTROL	.2	1,226	.04	$ 201	–	1,427 6%
BILLING	.6	3,071	–	–	–	3,071 13%
FOLLOW-UP AND COLLECTION	1.3	9,530	–	–	–	9,530 41%
RELATED FINANCIAL AND STATISTICAL ASPECTS	1.0	5,906	.03	194	–	6,100 26%
TOTAL	3.6	$ 22,852 98%	.1	$ 395 2%	–	$ 23,247 100%

*F.T.E. = Full-Time Equivalent Employees

PRESENT COST OF OUTPATIENT ACCOUNTING FOR SOMERVILLE HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.9	$ 4,911	–	–	–	$ 4,911 8%
IN-HOSPITAL CONTROL	1.2	8,418	.1	$ 606	–	9,024 14%
BILLING	4.0	27,813	–	–	–	27,813 45%
FOLLOW-UP AND COLLECTION	1.7	12,075	–	–	–	12,075 19%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.7	4,457	.5	4,276	–	8,733 14%
TOTAL	8.5	$ 57,674 92%	.6	$ 4,882 8%	–	$ 62,556 100%

*F.T.E. = Full-Time Equivalent Employees

PRESENT COST OF OUTPATIENT ACCOUNTING FOR MARLBOROUGH HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.8	$ 4,804	–	–	–	$ 4,804 8%
IN-HOSPITAL CONTROL	.3	1,842	.2	$ 1,776	$ 1,087	4,705 7%
BILLING	2.9	17,665	–	–	–	17,665 29%
FOLLOW-UP AND COLLECTION	4.8	27,807	–	–	–	27,807 46%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.1	680	.5	4,014	1,945	6,639 10%
TOTAL	8.9	$ 52,798 86%	.7	$ 5,790 9%	$ 3,032 5%	$ 61,620 100%

*F.T.E. = Full-Time Equivalent Employees

PRESENT COST OF OUTPATIENT ACCOUNTING FOR NEW ENGLAND DEACONESS HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.4	$ 2,825	–	–	–	$ 2,825 7%
IN-HOSPITAL CONTROL	.3	1,614	.0	$ 162	$ 1,138	2,914 7%
BILLING	1.7	12,793	–	–	574	13,367 32%
FOLLOW-UP AND COLLECTION	1.8	12,826	–	–	4,470	17,296 42%
RELATED FINANCIAL AND STATISTICAL ASPECTS	–	–	.5	3,440	1,408	4,848 12%
TOTAL	4.2	$ 30,058 73%	.5	$ 3,602 9%	$ 7,590 18%	$ 41,250 100%

*F.T.E. = Full-Time Equivalent Employees

PRESENT COST OF OUTPATIENT ACCOUNTING FOR QUINCY CITY HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	1.4	$ 9,604	–	–	–	$ 9,604 9%
IN-HOSPITAL CONTROL	1.7	11,817	0	$ 264	–	12,081 12%
BILLING	4.2	27,293	–	–	–	27,293 26%
FOLLOW-UP AND COLLECTION	7.1	48,478	–	–	–	48,478 47%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.5	3,457	.5	3,196	–	6,653 6%
TOTAL	14.9	$100,649 97%	.5	$ 3,460 3%	–	$104,109 100%

*F.T.E. = Full-Time Equivalent Employees

PRESENT COST OF OUTPATIENT ACCOUNTING FOR MASSACHUSETTS GENERAL HOSPITAL

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE COST	TOTAL COST (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	6.1	$ 37,825	–	–	–	$ 37,825 12%
IN-HOSPITAL CONTROL	3.7	22,709	1.1	$ 7,462	$ 5,493	35,664 11%
BILLING	16.2	104,965	–	–	27,933	132,898 43%
FOLLOW-UP AND COLLECTION	12.4	80,474	–	–	10,188	90,662 29%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.1	789	1.8	12,349	950	14,088 5%
TOTAL	38.5	$246,762 79%	2.9	$19,811 6%	$ 44,564 15%	$311,137 100%

*F.T.E. = Full-Time Equivalent Employees

Appendix 3

PART H

DETAILS OF OUTPATIENT SAVINGS UNDER ALTERNATE INCLUSIVE RATE LEVELS

DETAILS OF OUTPATIENT SAVINGS
INCLUSIVE RATE LEVEL 1

STUDY HOSPITAL	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		EDP SERVICE	STD OFFICE EQUIPMENT	SUPPLIES	SPACE	TOTAL REDUCTION
	# F.T.E.	COST	# F.T.E.	COST					
Amesbury	.3	$ 1,516 95%	–	$ 36 2%	–	$ 38 2%	$ 9 1%	–	$ 1,599 100%
Doctors'	1.3	8,035 95%	.04	201 2%	–	175 2%	42 1%	–	8,453 100%
Somerville	2.8	17,858 95%	.1	606 3%	–	350 2%	84	–	18,898 100%
Marlboro	1.1	6,713 71%	.2	1,776 19%	$ 733 8%	138 1%	136 1%	–	9,496 100%
New England Deaconess	1.0	7,340 72%	.1	(483)	2,631 26%	125 1%	106 1%	–	9,719 100%
Quincy City	2.9	20,083 97%	.03	264 1%	–	362 2%	87	–	20,796 100%
Massachusetts General	5.3	33,875 54%	.4	2,676 4%	21,192 34%	663 1%	826 1%	$ 3,750 6%	62,982 100%
TOTAL REDUCTION	14.7	$95,420 72%	.9	$ 5,076 4%	$24,556 19%	$ 1,851 1%	$ 1,290 1%	$ 3,750 3%	$131,943 100%

Note: "F.T.E." indicates number of full-time equivalent employees

POTENTIAL COST REDUCTION (INCREASE) IN MAJOR OUTPATIENT ACCOUNTING FUNCTIONS FOR SEVEN STUDY HOSPITALS UNDER INCLUSIVE RATE LEVEL 1

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE	TOTAL REDUCTION (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.3	$ 1,768	–	–	–	$ 1,768 1%
IN-HOSPITAL CONTROL	6.8	44,164	1.5	$10,506	$ 1,444	56,114 45%
BILLING	3.4	22,808	–	–	18,584	41,392 33%
FOLLOW-UP AND COLLECTION	2.2	14,956	–	–	3,302	18,258 15%
RELATED FINANCIAL AND STATISTICAL ASPECTS	2.0	11,724	(.6)	(5,430)	1,226	7,520 6%
TOTAL	14.7	$ 95,420 76%	.9	$ 5,076 4%	$ 24,556 20%	$125,052 100%

*F.T.E. = Full-Time Equivalent Employees

DETAILS OF OUTPATIENT SAVINGS INCLUSIVE RATE LEVEL 2

STUDY HOSPITAL	BUSINESS OFFICE MANPOWER # F.T.E.	BUSINESS OFFICE MANPOWER COST	ANCILLARY MANPOWER # F.T.E.	ANCILLARY MANPOWER COST	EDP SERVICE	STD OFFICE EQUIPMENT	SUPPLIES	SPACE	TOTAL REDUCTION
Amesbury	.3	$ 1,516 99%	–	$ (48)	–	$ 38 1%	$ 9	–	$ 1,515 100%
Doctors'	1.3	8,035 97%	.02	71 1%	–	163 2%	39	–	8,308 100%
Somerville	2.8	17,858 98%	–	(52)	–	350 2%	84	–	18,240 100%
Marlboro	1.1	6,713 78%	.1	788 9%	$ 733 9%	138 2%	136 2%	–	8,508 100%
New England Deaconess	1.0	6,934 83%	–	–	1,249 15%	125 2%	30	–	8,338 100%
Quincy City	2.9	20,083 98%	(.1)	(1,086)	–	363 2%	87	–	19,447 100%
Massachusetts General	3.7	23,182 55%	–	–	18,999 44%	463 1%	111	–	43,385 100%
TOTAL REDUCTION	13.1	$84,951 79%	–	$ (327)	$20,981 19%	$ 1,640 2%	$ 496	–	$107,741 100%

Note: "F.T.E." indicates number of full-time equivalent employees

POTENTIAL COST REDUCTION (INCREASE) IN MAJOR OUTPATIENT ACCOUNTING FUNCTIONS FOR SEVEN STUDY HOSPITALS UNDER INCLUSIVE RATE LEVEL 2

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE	TOTAL REDUCTION (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.3	$ 1,768	–	–	–	$ 1,768 1%
IN-HOSPITAL CONTROL	6.8	44,164	1.5	$10,506	$ 1,444	56,114 49%
BILLING	3.4	22,808	–	–	18,584	41,392 35%
FOLLOW-UP AND COLLECTION	2.2	14,956	–	–	3,302	18,258 15%
RELATED FINANCIAL AND STATISTICAL ASPECTS	.4	1,255	(1.5)	(10,833)	(2,349)	(11,927)
TOTAL	13.1	$ 84,951 80%	–	$ (327)	$ 20,981 20%	$105,605 100%

*F.T.E. = Full-Time Equivalent Employees

DETAILS OF OUTPATIENT SAVINGS
INCLUSIVE RATE LEVEL 3

STUDY HOSPITAL	BUSINESS OFFICE MANPOWER # F.T.E.	BUSINESS OFFICE MANPOWER COST	ANCILLARY MANPOWER # F.T.E.	ANCILLARY MANPOWER COST	EDP SERVICE	STD OFFICE EQUIPMENT	SUPPLIES	SPACE	TOTAL REDUCTION
Amesbury	.2	$ 698 96%	–	$ (21)	–	$ 25 3%	$ 6 1%	–	$ 708 100%
Doctors'	1.0	6,197 98%	–	–	–	125 2%	30	–	6,352 100%
Somerville	1.7	10,744 95%	.06	345 3%	–	212 2%	51	–	11,352 100%
Marlboro	.7	3,812 95%	–	–	$ 112 3%	88 2%	21	–	4,033 100%
New England Deaconess	.9	6,529 86%	–	–	924 12%	110 1%	30	–	7,593 100%
Quincy City	1.5	10,353 98%	(.1)	(581)	–	187 2%	45	–	10,004 100%
Massachusetts General	2.3	14,754 48%	–	–	15,704 51%	288 1%	69	–	30,815 100%
TOTAL REDUCTION	8.3	$53,087 75%	–	$ (257)	$16,740 24%	$ 1,035 1%	$ 252	–	$70,857 100%

Note: "F.T.E." indicates number of full-time equivalent employees

POTENTIAL COST REDUCTION (INCREASE) IN MAJOR OUTPATIENT ACCOUNTING FUNCTIONS FOR SEVEN STUDY HOSPITALS UNDER INCLUSIVE RATE LEVEL 3

MAJOR FUNCTION	BUSINESS OFFICE MANPOWER		ANCILLARY MANPOWER		E.D.P. SERVICE	TOTAL REDUCTION (% OF TOTAL)
	F.T.E.*	COST	F.T.E.*	COST		
FINANCIAL ADMISSION	.3	$ 1,768	—	–	—	$ 1,768 1%
IN-HOSPITAL CONTROL	6.8	44,164	1.5	$10,506	$ 1,444	56,114 49%
BILLING	3.4	22,808	—	–	18,584	41,392 35%
FOLLOW-UP AND COLLECTION	2.2	14,956	—	–	3,302	18,258 15%
RELATED FINANCIAL AND STATISTICAL ASPECTS	(4.4)	(30,609)	(1.5)	(10,763)	(6,590)	(47,962)
TOTAL	8.3	$ 53,087 76%	–	$ (257)	$ 16,740 24%	$ 69,570 100%

*F.T.E. = Full-Time Equivalent Employees

COMPARISON OF NUMBER OF OUTPATIENT ACCOUNTING PERSONNEL AND EDP SERVICE COST UNDER EACH ALTERNATIVE INCLUSIVE RATE SYSTEM

	PRESENT			LEVEL 1			LEVEL 2			LEVEL 3		
	# F.T.E.*		EDP	# F.T.E.*		EDP	# F.T.E.*		EDP	# F.T.E.*		EDP
HOSPITAL	B.O.	ANCIL.	COST	B.O.	ANCIL.	COST	B.O.	ANCIL.	COST	B.O.	ANCIL.	COST
Amesbury	1.7	.1	—	1.4	.1	—	1.4	.1	—	1.5	.1	—
Doctors'	3.6	.1	—	2.3	.1	—	2.3	.1	—	2.6	.1	—
Somerville	8.5	.6	—	5.7	.5	—	5.7	.6	—	6.8	.5	—
Marlboro	8.9	.7	$ 3,032	7.8	.5	$ 2,299	7.8	.6	$ 2,299	8.2	.7	$ 2,920
New England Deaconess	4.2	.5	7,590	3.2	.4	4,959	3.2	.5	6,341	3.3	.5	6,666
Quincy City	14.9	.5	—	12.0	.5	—	12.0	.6	—	13.4	.6	—
Massachusetts General	38.5	2.9	44,564	33.2	2.5	23,372	35.8	2.9	25,565	36.2	2.9	28,860
TOTAL	80.3	5.4	$55,186	65.6	4.6	$30,630	68.2	5.4	$34,205	72.0	5.4	$38,446

*"F.T.E." refers to number of equivalent full-time employees

Appendix 3

PART I

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL* OUTPATIENT ACCOUNTING – INCLUSIVE RATE SYSTEMS

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* Same hospital referenced in Part C

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL OUTPATIENT ACCOUNTING – INCLUSIVE RATE LEVEL 1

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Clinic Clerk	51,825	1.00	864	$2.99	$2,713	$4,900
FUNCTION TOTALS				864		2,713	4,900
BILLING							
Blue Cross	Sr. Billing Clerk	9,730	3.55	576	3.35	1,930	3,485
Blue Cross Reject	Sr. Billing Clerk	920	3.55	54	3.35	182	329
Medicare	Billing Clerk	3,353	10.89	609	3.14	1,912	3,453
Medicaid	Billing Clerk	13,137	5.50	1,204	3.14	3,781	6,828
Comm. Ins.	Billing Clerk	4,988	8.55	711	3.14	2,232	4,031
Self Pay	Billing Clerk	19,092	.99	314	3.14	984	1,777
Cash Payments	Clinic Clerk	4,006	3.25	217	3.14	681	1,230
FUNCTION TOTALS				3,685		11,702	21,133
FOLLOW-UP & COLLECTION							
Follow-up Status	Billing Clerk	21,274	1.75	620	$3.14	$1,945	$3,513
Collection Agency	Sr. Billing Clerk	8,416	2.20	309	3.35	1,035	1,869
Write-Off to Bad Debt	Sr. Billing Clerk	2,711	2.20	99	3.35	332	600
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	25	2.50	1	3.14	5	9
– Other	Billing Clerk	7,650	2.50	319	3.14	1,001	1,808
Post Payments to Receipt Journal	Cashier						
– Cash	Cashier	2,537	3.10	132	3.14	414	748
– Draft/Check	Cashier	7,264	2.60	315	3.14	988	1,784
Post Credits to Accounts:	Posting Clk.						
– Blue Cross/Medicare	Posting Clk.	11,490	.17	33	3.14	102	184
– Other	Posting Clk.	38,500	.30	193	3.14	604	1,091
FUNCTION TOTALS				2,021		6,426	11,605

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL & STATISTICAL							
Receivable Analysis	Billing Clerk	47,819	.40	319	$3.14	$1,002	$1,810
Adjust Receivables	Billing Clerk	9,801	.40	65	3.14	204	368
Workload Stats. & Dept. Log	Dept. Staff	*	*	884	*	3,635	4,276
FUNCTION TOTALS				1,268		4,841	6,454
GRAND TOTAL				7,838		$25,682	$44,092

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
OUTPATIENT ACCOUNTING – INCLUSIVE RATE LEVEL 2

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Clinic Clerk	51,825	1.00	864	$2.99	$2,713	$4,900
FUNCTION TOTALS				864		2,713	4,900
BILLING							
Blue Cross	Sr. Billing Clerk	9,730	3.55	576	3.35	1,930	3,485
Blue Cross Reject	Sr. Billing Clerk	920	3.55	54	3.35	182	329
Medicare	Billing Clerk	3,353	10.89	609	3.14	1,912	3,453
Medicaid	Billing Clerk	13,137	5.50	1,204	3.14	3,781	6,828
Comm. Ins.	Billing Clerk	4,988	8.55	711	3.14	2,232	4,031
Self Pay	Billing Clerk	19,092	.99	314	3.14	984	1,777
Cash Payments	Clinic Clerk	4,006	3.25	217	3.14	681	1,230
FUNCTION TOTALS				3,685		11,702	21,133
FOLLOW-UP & COLLECTION							
Follow-up Status	Billing Clerk	21,274	1.75	620	$3.14	$1,945	$3,513
Collection Agency	Sr. Billing Clerk	8,416	2.20	309	3.35	1,035	1,869
Write-Off to Bad Debt	Sr. Billing Clerk	2,711	2.20	99	3.35	332	600
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	25	2.50	1	3.14	5	9
– Other	Billing Clerk	7,650	2.50	319	3.14	1,001	1,808
Post Payments to Receipt Journal	Cashier						
– Cash	Cashier	2,537	3.10	132	3.14	414	748
– Draft/Check	Cashier	7,264	2.60	315	3.14	988	1,784
Post Credits to Accounts:	Posting Clk.						
– Blue Cross/Medicare	Posting Clk.	11,490	.17	33	3.14	102	184
– Other	Posting Clk.	38,500	.30	193	3.14	604	1,091
FUNCTION TOTALS				2,021		6,426	11,605

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL & STATISTICAL							
Receivable Analysis	Billing Clerk	47,819	.40	319	$3.14	$1,002	$1,810
Adjust Receivables	Billing Clerk	9,801	.40	65	3.14	204	368
Workload Stats. & Dept. Log	Dept. Staff	*	*	884	*	3,635	4,276
Assign Point Level to IR Category	Dept. Staff	*	*	140	*	559	658
FUNCTION TOTALS				1,408		5,400	7,112
GRAND TOTAL				7,978		$26,241	$44,750

MANPOWER COST ANALYSIS FOR SAMPLE STUDY HOSPITAL
OUTPATIENT ACCOUNTING – INCLUSIVE RATE LEVEL 3

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL ADMISSION							
Initiation of Patient Account	Clinic Clerk	51,825	1.00	864	$2.99	$2,713	$4,900
FUNCTION TOTALS				864		2,713	4,900
BILLING							
Blue Cross	Sr. Billing Clerk	9,730	3.55	576	3.35	1,930	3,485
Blue Cross Reject	Sr. Billing Clerk	920	3.55	54	3.35	182	329
Medicare	Billing Clerk	3,353	10.89	609	3.14	1,912	3,453
Medicaid	Billing Clerk	13,137	5.50	1,204	3.14	3,781	6,828
Comm. Ins.	Billing Clerk	4,988	8.55	711	3.14	2,232	4,031
Self Pay	Billing Clerk	19,092	.99	314	3.14	984	1,777
Cash Payments	Clinic Clerk	4,006	3.25	217	3.14	681	1,230
FUNCTION TOTALS				3,685		11,702	21,133
FOLLOW-UP & COLLECTION							
Follow-up & Status	Billing Clerk	21,274	1.75	620	$3.14	$1,945	$3,513
Collection Agency	Sr. Billing Clerk	8,416	2.20	309	3.35	1,035	1,869
Write-Off to Bad Debt	Sr. Billing Clerk	2,711	2.20	99	3.35	332	600
Telephone Queries:	Billing Clerk						
– Charges	Billing Clerk	25	2.50	1	3.14	5	9
– Other	Billing Clerk	7,650	2.50	319	3.14	1,001	1,808
Post Payments to Receipts Journal	Cashier						
– Cash	Cashier	2,537	3.10	132	3.14	414	748
– Draft/Check	Cashier	7,264	2.60	315	3.14	988	1,784
Post Credits to Accounts:	Posting Clk.						
– Blue Cross/Medicare	Posting Clk.	11,490	.17	33	3.14	102	184
– Other	Posting Clk.	38,500	.30	193	3.14	604	1,091
FUNCTION TOTALS				2,021		6,426	11,605

	By Whom Done	Annual Volume	Std. Minutes Per Occ.	Annual Std. Hours	Labor Cost Per Hour	Annual Std. Cost	Annual Actual Cost
FINANCIAL & STATISTICAL							
Receivable Analysis	Billing Clerk	47,819	.40	319	$3.14	$1,002	$1,810
Adjust Receivables	Billing Clerk	9,801	.40	65	3.14	204	368
Workload Stats. & Dept. Log	Dept. Staff	*	*	884	*	3,635	4,276
Point Price Reg.	Dept. Staff	*	*	58	*	222	298
Match Priced Reg. With Acct.	Billing Clerk	85,582	.14	200	3.14	628	843
Point Distribution	Billing Clerk	51,825	1.65	1,431	3.14	4,494	6,234
FUNCTION TOTALS				2,957		10,301	13,829
GRAND TOTAL				9,527		$31,142	$51,467

Appendix 4

GLOSSARY

GLOSSARY

Inclusive Rate	A term referring to a hospital patient charging system which replaces itemized charges with an average comprehensive charge for service.

* * * *

Abstract Sheet	A record of procedures maintained only by category of patient, accommodation, or category of procedure. Individual procedures not traceable from sheet to individual.
"A la Carte" Charging	A term referring to the current method of itemized charging employed by hospitals.
Ancillary Service Department	Generally any department other than nursing or medical services. However, in the context of this study, would only include services which generate a charge for a specific procedure.
Bill	A statement of account submitted to patient or underwriter for payment.
Business Office	That part of the financial department concerned with the control and settlement of patient accounts.
Charge	A fee for service rendered by an ancillary department and not included in the room and board rate.
Charge Card or Charge Slip	The physical document used to transmit a record of a charge from the service department to the Business Office. Often, but not always, a modified copy of the requisition but existing only for financial purposes.
Clinic Patient	Any out-patient receiving treatment at a regularly scheduled clinic within the hospital. When such a clinic provides service to an in-patient, the visit is treated as an ancillary service.

Co-Insurance	When two or more underwriters are responsible for a patient's bill.
Credit Screening	Process of determining credit worthiness of a patient and/or underwriter prior to discharge.
Departmental Logs and Workload Statistics	A record of procedures normally but not always compiled within the ancillary service departments. May be kept on a log and/or an abstracting sheet.
Follow-Up Bill	Any bill submitted to the same party subsequent to an initial bill.
Income Distribution, Revenue Distribution	An analysis of income or revenue by ancillary service department. Based on charge data.
Initial Bill	The first complete bill submitted for payment to *each* responsible party *after* discharge. A patient with co-insurance and/or a deductible portion will generate at least two initial bills.
Inpatient	Any patient formally admitted to the hospital.
Insurance Verification	Contact with underwriter to establish extent of claimed coverage.
Interim Bill	A bill submitted for payment prior to discharge, during the course of an unusually long hospital stay.
Interim Reimbursement	Payment to a hospital by a cost reimburser, covering the entire stay of the patient, paid after the patient is discharged. Generally an estimated payment based on a percentage of charges, and subject to revision based on year-end audit. Should not be confused with a partial payment made to a hospital, during the course of a long hospital stay, arising from an interim billing.
Ledger	The physical document on which a record of account activity is maintained. (May not exist in an automated system.)

Log	A departmental record of a procedure performed for an individual patient which is readily identifiable to that individual.
Medicare Income Distribution	Analysis of charge data by department for medicare patients only. Used as the basis of RCCAC method of reimbursement.
Outpatient	Any person receiving treatment or service in the hospital but not an in-patient. Includes Clinic, Emergency Ward, and Private Ambulatory patients.
Patient Account	The *financial* record of an inpatient or ambulatory patient.
Patient Accounting	The primary function of the Business Office.
Private Ambulatory Patient	A patient referred by his physician to the hospital for outpatient service. The individual remains the private patient of the referring physician and does not generate a medical record as do Clinic and Emergency Ward patients.
Procedure	Any service treatment or test provided to a patient, normally associated with an itemized charge.
RCCAC	"Ratio of costs to charges, applied to charges"; denotes a common accounting technique employed during final settlement as a means of apportioning hospital operating costs to certain third-party payers.
Requisition	A written request for ancillary service, normally resulting from a doctor's order and forming part of the medical record.
Room and Board Rate	A flat per diem fee stratified by accommodation to cover the basic cost of maintaining a patient in the hospital.
Self-Pay	Bill or portion of a bill paid by patient.

Standard Office Equipment	Those items normally used to support a clerical position. Desk, chair, telephone, typewriter, etc.
Statistical Card	Performs the same function as a charge card under various methods of all-inclusive charging when it is necessary to retain a record of the workload point value of a procedure until the rate category to which the activity is to be assigned is determined.
Underwriter	Any person or body other than the patient who is wholly or partially responsible for the patient's bill.
Workload Point Value	A weighted number which provides a relative measure of the cost/workload of performing the procedure.

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